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VOL. XIV. NO. 1.

JANUARY 1, 1886.

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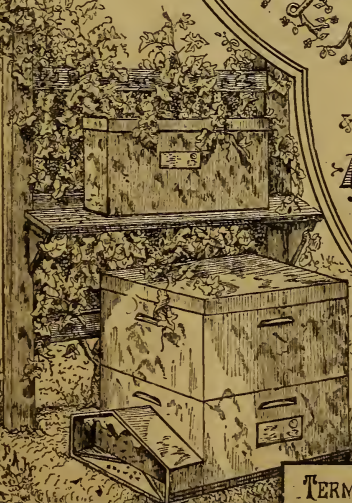
PEACE ON EARTH  
GOOD WILL TOWARD MEN



# CLEANING IN BEE CULTURE

DEVOTED  
TO  
BEEKEEPING

& HOME INTERESTS.  
MEDINA, OHIO  
BY  
A. BOOT



TERMS, ONE DOLLAR PER YEAR.

FRANKLIN, DUNN, & CO.

ENTERED AT THE POST OFFICE, MEDINA, OHIO, AS SECOND-CLASS MATTER.



## ADVERTISEMENTS.

We require that every advertiser satisfy us of responsibility and intention to do all that he agrees, and that his goods are really worth the price asked for them.

## Rates for Advertisements.

All advertisements will be inserted at the rate of 20 cents per line, Nonpareil space, each insertion; 12 lines of Nonpareil space make 1 inch. Discounts will be made as follows:

On 10 lines and upward, 3 insertions, 5 per cent; 6 insertions, 10 per cent; 9 insertions, 15 per cent; 12 insertions, 20 per cent; 24 insertions, 25 per cent.  
On 50 lines (½ column) and upward, 1 insertion, 5 per cent; 3 insertions, 10 per cent; 6 insertions, 15 per cent; 9 insertions, 20 per cent; 12 insertions, 25 per cent; 24 insertions, 33½ per cent.  
On 100 lines (whole column) and upward, 1 insertion, 10 per cent; 3 insertions, 15 per cent; 6 insertions, 20 per cent; 9 insertions, 25 per cent; 12 insertions, 33½ per cent; 24 insertions, 40 per cent.  
On 200 lines (whole page), 1 insertion, 15 per cent; 3 insertions, 20 per cent; 6 insertions, 25 per cent; 9 insertions, 30 per cent; 12 insertions, 40 per cent; 24 insertions, 50 per cent. A. I. Root.

## CLUBBING LIST.

We will send GLEANINGS—  
With the American Bee-Journal, W'y (\$1.00) \$1.75  
With the Bee-keepers' Magazine, (1.00) 1.75  
With the Bee-keepers' Guide, (.50) 1.40  
With the Canadian Bee Journal, W'y (1.00) 1.90  
With all of the above journals, 4.25

With American Agriculturist, (\$1.50) 2.25  
With American Garden, (\$1.00) 1.50  
With the British Bee-Journal, (1.40) 2.25  
With Prairie Farmer, (2.00) 2.75  
With Rural New-Yorker, (2.00) 2.90  
With Scientific American, (3.20) 3.50  
With Ohio Farmer, (1.25) 2.00  
With Fruit Recorder and Cottage Gard'r, (.50) 1.40  
With U. S. Official Postal Guide, (1.50) 2.25  
With Sunday-School Times, weekly, (2.00) 2.25  
[Above Rates include all Postage in U. S. and Canada.]

## HEADQUARTERS FOR

## Early Italian &amp; Cyprian Queens.

Imported and home-bred; nuclei and full colonies. For quality and purity, my stock of bees can not be excelled in the United States. I make a specialty of manufacturing the Dunham foundation. Try it. If you wish to purchase Bees or Supplies, send for my new Circular containing directions for introducing queens, remarks on the new races of Bees, etc. Address

1tfid Dr. J. P. H. BROWN, Augusta, Ga.

## FLAT - BOTTOM COMB FOUNDATION.



High side-walls, 4 to 14 square feet to the pound. Circular and samples free.

J. VAN DEUSEN & SONS.  
4tfid Sole Manufacturers,  
SPROUT BROOK, MONT. CO., N. Y.

TESTED QUEENS, \$2.00. Untested, \$1.00. 4-frame nuclei, \$3.50 and \$4.50. Mississippi wax-extractor, \$3.00. OSCAR F. BLEDSOE, Grenada, Miss. 3tfid

DADANT'S FOUNDATION FACTORY, Wholesale and retail. See advertisement in another column. 3tfid

VANDERVORT  
COMB FOUNDATION MILLS.

Send for samples and reduced price list.  
2tfidb JNO. VANDERVORT, Laceyville, Pa.

## Cash for Beeswax!

Will pay 20c per lb. cash, or 25c in trade for any quantity of good, fair, average beeswax, delivered at our R. R. station. The same will be sold to those who wish to purchase, at 28c per lb., or 35c for best selected wax.

Unless you put your name on the box, and notify us by mail of amount sent, I can not hold myself responsible for mistakes. It will not pay as a general thing to send wax by express.

A. I. ROOT, Medina, Ohio.

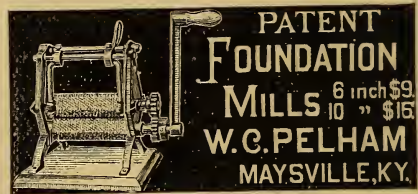
## Barnes' Foot-Power Machinery.



Read what J. I. PARENT, of CHARLTON, N. Y., says—"We cut with one of your Combined Machines last winter 50 chaff hives with 7 inch cap, 100 honey racks, 500 broad frames, 2,000 honey-boxes and a great deal of other work. This winter we have double the amount of bee hives, etc., to make and we expect to do it all with this Saw. It will do all you say it will."

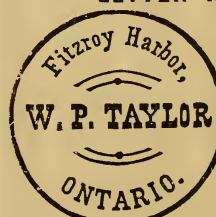
Catalogue and Price List Free. Address W. F. & JOHN BARNES, 68 Ruby St., Rockford, Ill.

When more convenient, orders for Barnes' Foot-Power Machinery may be sent to me. A. I. Root. 5tfid



## RUBBER STAMPS

DATING, ADDRESSING, BUSINESS, LETTER HEADS, ETC.



No. 1.



No. 3.



No. 2.

self and all who do business with you a "world of trouble." I know, you see.

We have those suitable for druggists, grocery-men, hardware dealers, dentists, etc. Send for circular. A. I. Root, Medina, O.

Address only, like No. 1, \$1.50; with business card, like No. 2, \$2.00; with movable months and figures for dating, like No. 3, \$3.00. Full outfit included—pads, ink, box, etc. Sent by mail postpaid. Without ink and pads, 50 cts. less.

Put your stamp on every card, letter, paper, book, or anything else that you may send out by mail or express and you will save your-

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### CATALOGUES RECEIVED FOR 1886.

G. B. Lewis & Co., Watertown, Wis., send us an 18-page catalogue, fully illustrated; specialties, bee-hives and section boxes.

Smith & Goodell, Rock Falls, Ill., send an 8-page circular; specialties, hives and section boxes.

We have just printed for P. L. Viallon, Bayou Goula, La., a 4 - page supplemental catalogue, containing changes since his catalogue for 1885 was sent out.

For J. D. Rusk, Milwaukee, Wis., we have just printed a 4-page list of bee-supplies.

As we go to press we are printing for G. W. Stanley & Bro., Wyoming, N. Y., a one-page circular, GLEANINGS size, relative to their automatic extractor, and smokers.

**FOR SALE.** Five pair fine Pekin ducks, at \$4.00 per pair.  
1tfdb D. D. FARNSWORTH, Clive, Polk Co., Iowa.

**FOR SALE.**—2000 lbs. of extracted honey, in kegs of 160 lbs. each. Quality of honey first class. I will deliver, freight paid, to parties within 800 miles for 8 and 9 cts. per lb. CHAS. T. GEROULD,  
East Smithfield, Bradford Co., Pa.

### Recent Additions to the Counter Store.

Postage.] [Pr. of 10, of 100

**FIVE - CENT COUNTER.**  
8 | DOOR-BOLT, japanned..... | 40 | 3 50  
A nicely made article, all complete, even to the screws.  
Wonderfully convenient.

**TEN-CENT COUNTER.**  
9 | SCRAP-ALBUM. Size, 9x11, 12 pages..... | 80 | 7 50  
These neatly made scrap-books are getting to be quite a plaything for the children, and they may be made quite convenient and instructive for the older people. I use one for clipping such articles as I want to preserve from the various agricultural papers, and have them safe and secure; and the book is a handsome piece of furniture, even if it does cost only a dime.

**FIFTY-CENT COUNTER.**  
10 | BUTCHER-KNIFE. J. Russell & Co.'s best  
hand-forged steel. Blade 9 in. long..... | 4 00 | 35 00

A. I. ROOT, Medina, Ohio.

**For Sale.** Two steam-engines. The two engines advertised on page 808, issue for Dec. 1, are not sold up to date. The engines must be sold. How much do I hear bid? Engines are all in good running order. I will pay freight one way to any one who will come and buy one or both of said engines. J. B. MURRAY,  
1d Ada, Hardin Co., Ohio.

**DADANT'S FOUNDATION FACTORY, WHOLESALE and RETAIL.**  
See advertisement in another column. 3btfdb

Names of responsible parties will be inserted in any of the following departments, at a uniform price of 20 cents each insertion, or \$2.00 per year, when given once a month, or \$4.00 per year if given in every issue.

## \$1.00 Queens.

Names inserted in this department the first time without charge. After, 20c each insertion, or \$2.00 per year.

Those whose names appear below agree to furnish Italian queens for \$1.00 each, under the following conditions: No guarantee is to be assumed of purity, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind, that he who sends the best queens, put up most neatly and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with \*, use an imported queen-mother. If the queen arrives dead, notify us and we will send you another. Probably none will be sent for \$1.00 before July 1st, or after Nov. If wanted sooner, or later, see rates in price list.

\*A. I. Root, Medina, Ohio.  
\*H. H. Brown, Light Street, Columbia Co., Pa. 1tf  
\*Paul L. Viallon, Bayou Goula, La. 1tfdb  
\*S. F. Newman, Norwalk, Huron Co., O. 1tfdb  
\*Wm. Ballantine, Mansfield, Rich. Co., O. 1tfdb  
\*D. G. Edmiston, Adrian, Len. Co., Mich. 21tfdb  
\*S. G. Wood, Birmingham, Jeff. Co., Ala. 1tfdb  
\*S. C. Perry, Portland, Ionia Co., Mich. 21tfdb  
\*E. T. Lewis, Toledo, Lucas Co., O. 3-1  
S. H. Hutchinson & Son, Claremont, Surry Co., Va. 5-3  
\*E. Kretchmer, Coburg, Mont. Co., Iowa. 23tfdb  
D. McKenzie, Camp Parapet, Jeff. Parish, La. 1tfdb  
Ira D. Alderman, Taylor's Bridge, Samp. Co., N.C. 1tfdb  
G. F. Smith, Bald Mount, Lack'a Co., Pa. 21tfdb  
Jos. Byrne, Baton Rouge, Lock Box 5,  
East Baton Rouge Par., La. 21tfdb

## Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

A. I. Root, Medina, Ohio.  
P. L. Viallon, Bayou Goula, Iberville Par., La. 1tfdb  
C. W. Costellow, Waterboro, York Co., Me. 1-23  
Kennedy & Leahy, Higginsville, Laf. Co., Mo. 23tfdb  
E. T. Lewis, Toledo, Lucas Co., Ohio. 3-1  
H. F. Moeller, cor. 5th st. and Western Ave.,  
Davenport, Ia. 3-1  
E. Kretchmer, Coburg, Montgomery Co., Ia. 23tfdb  
C. P. Bish, Petrolia, Butler Co., Pa. 15-1

## CONTRACTS WANTED — WITH — SUPPLY DEALERS

FOR NEXT SEASON'S STOCK OF GOODS?

CHAFF, STORY AND HALF CHAFF, AND SIM-  
PLICITY HIVES, SMOKERS, EXTRACTORS,  
COMB FOUNDATION, FRAMES, SEC-  
TIONS, BOOKS, ETC.,

At wholesale and retail. Unexcelled facilities.  
Circulars and estimates free. Successors to S. C. &  
J. P. Watts. Sta. Kermore, B. C. C., & S. W. R. R.

WATTS BROS., Murray, Clearfield Co., Pa.  
1tfdb.

**FOR SALE.** Eureka Safety Engine  
1-2d. A. A. FRADENBURG, Port Washington, O.



## HONEY COLUMN.

### CITY MARKETS.

NEW YORK.—*Honey*.—The market for comb honey in this city is very inactive, which we attribute to the continued warm weather, in consequence of which, prices are gradually shading. We quote prices at present as follows: Fancy white comb honey, 1-lb. paper cartons, 14@15c; same glassed or unglazed, 13@14c. 2-lb. cartons, glassed, 10½@12c; same unglazed, 12@13c. Fancy buckwheat comb honey, 1-lb. paper cartons, 11@12c; same in 2-pound paper cartons, 9@10c. Extracted, white clover, 6½@8c; buckwheat, 5½@6½.

McCAUL & HILDRETH BROS.,

Dec. 22, 1885. 34 Hudson St., New York, N. Y.

NEW YORK.—*Honey*.—There is still a good demand for all grades of comb honey. Receipts are few and small, as the bulk of honey has been sent to market. We quote: Fancy white, 1-lb. sections, 14@15c; 2-lb. sections, 11@13c. Off grades, 1-lb. sections, 12@13c; 2-lb. sections, 10@11. Buckwheat, 1-lb. sections, 11@12c; 2-lb. sections, 10@11. Extracted, white, 6½@7½; buckwheat, 5½@6c.

THURBER, WHYLAND & CO.,

Dec. 21, 1885. Reade & Hudson Sts., New York.

CHICAGO.—*Honey*.—Our stock of best grade of white comb honey is low; and now that a thaw is promised by the weather-prophets, it would be a good time to ship honey. One-pound sections bring 16c; 1¼ to 1½ to 2 lbs., 13@15. Extracted is also in demand at from 6@8c, according to quality and color. *Beeswar*, 25@26c. R. A. BURNETT,

Dec. 21, 1885. 161 S. Water St., Chicago, Ill.

CINCINNATI.—*Honey*.—There is no change in prices since our last. The stock seems to accumulate on the market, while demand is exceedingly slow. *Beeswar*.—There is a fair demand for beeswax, with no change in prices.

Dec. 22, 1885.

CHAS. F. MUTH,  
S. E. Cor. Freeman and Central Avenues,  
Cincinnati, Ohio.

ST. LOUIS.—*Honey*.—Our honey market is quiet. Southern, in barrels, 5@5½c. Northern, in kegs, about 7c. Comb honey, white-clover, 15@16. Fancy, worth more. Dark honey hard to sell—normal. *Beeswar*, 22½@23 for choice.

Dec. 23, 1885.

W. T. ANDERSON & CO.,  
104 N. 3d Street, St. Louis, Mo.

BOSTON.—*Honey*.—Best 1-pound sections, 14@16; best 2-pound sections, 12@14. Slow sale. No demand for extracted.

Dec. 21, 1885.

BLAKE & RIPLEY,  
57 Chatham St., Boston, Mass.

## SECTIONS.

Western headquarters for bee-men's supplies. Four-piece sections, and hives of every kind, a specialty. Flory's corner-clamps, etc. Orders for sections and clamps filled in a few hours' notice. Send for sample and prices.

22 21db M. R. MADARY,  
Box 172. Fresno City, Cal.

## WE WILL SELL

Chaff hives complete, with lower frames, for \$2.50; in flat \$1.50. A liberal discount by the quantity. Simplicity hives, Section Boxes, Comb Fdn., and other Supplies, at a great reduction. We have new machinery, and an enlarged shop. **Italian Bees and Queens.** Send for Price List.

A. F. STAUFFER & CO., Sterling, Ills.

DADANT'S FOUNDATION FACTORY, WHOLE-SALE AND RETAIL. See advertisement in another column. 3btfdb

## NEWFOUNDLAND PUPS

For sale, \$10.00 apiece. Beautiful little fellows—children's best friend in times of trouble. Address 3, 24, Id.

A. J. NORRIS, CEDAR FALLS, IOWA.

## MUTH'S HONEY-EXTRACTOR, SQUARE GLASS HONEY-JARS, TIN BUCKETS, BEE-HIVES, HONEY-SECTIONS, &c., &c. PERFECTION COLD-BLAST SMOKERS,

Apply to CHAS. F. MUTH & SON,

CINCINNATI, O.

P. S.—Send 10-cent stamp for "Practical Hints to Bee-Keepers." 1tfdb

## LOOK HERE!

To introduce my strain of pure bright Italians, equal to any in the United States, I will offer tested queens, \$1.00 each; extra fine, selected, \$1.50 each; one-frame nucleus, consisting of one extra select queen, one frame of brood, ½ lb. bees, for \$2.00. If you want any bees, send me your address on postal and I will send you sample by return mail. Beeswax or honey taken in exchange.

22tfdb

THOMAS HORN,

Box 691, Sherburne, Chen. Co., N. Y.

## Bee-Hives, Sections, FOUNDATION, ETC.

WITH a capacity of 7000 square feet of floor, we claim the best facilities for furnishing Supplies, in the southeast. **OUR NEW FACTORY IS EQUIPPED** with the best and latest improved Machinery, which enables us to furnish our goods "up to the times," and will furnish **all kinds at very reasonable prices.** Parties needing Supplies would do well to see our Price List before buying.

21tfdb

S. VALENTINE & SON,  
HAGERSTOWN, MD.

## STANLEY'S AUTOMATIC HONEY-EXTRACTOR

Is acknowledged by all practical bee-keepers to be the best honey-extractor made. Strongly indorsed by A. I. Root, L. C. Root, A. J. Cook, Ira Barber, James Heddon, and hundreds of other prominent bee-keepers throughout the world. Send at once for our new circular, with cut and full description.

Address

C. W. STANLEY & BRO.,

Id

Wyoming, N. Y.

## LEGS AND ARMS

(ARTIFICIAL)

WITH RUBBER HANDS AND FEET.

The Most Natural, Comfortable and Durable.

THOUSANDS IN USE.

New Patents and Important Improvements.

Special attention given to

**SOLDIERS,**

Ill. Pamphlet of 160 Pages

SENT FREE.

A. A. MARKS,

701 Broadway, New York.

Please mention this paper.

Oldest Bee Paper in America—Established in 1861.

## AMERICAN BEE JOURNAL,

16-page Weekly—\$1.00 a year.

Sample Free. THOMAS G. NEWMAN & SON,  
925 West Madison Street, Chicago, Ill.

WANTED.—Situation on salary or shares from some bee-keeper. Have had 7 years' experience. E. SANDFORD, Nokomis, Ill.



Vol. XIV.

JAN. 1, 1886.

No. 1.

TERMS: \$1.00 PER ANNUM, IN ADVANCE; 2 Copies for \$1.90; 3 for \$2.75; 5 for \$4.00; 10 or more, 75 cts. each. Single Number, 5 cts. Additions to clubs may be made at club rates. Above are all to be sent to ONE POSTOFFICE.

*Established in 1873.*

PUBLISHED SEMI-MONTHLY BY

A. I. ROOT, MEDINA, OHIO.

Clubs to different postoffices, NOT LESS than 90 cts. each. Sent postpaid, in the U. S. and Canadas. To all other countries of the Universal Postal Union, 18c per year extra. To all countries not of the U. P. U., 42c per year extra.

## NOTES FROM THE BANNER APIARY.

NO. 73.

OR, TO BE MORE EXACT ABOUT THE FACT, NOTES FROM THE DETROIT CONVENTION.

### SECTIONS.

**I**n the east, glassed sections sell better than un-glassed; but Western people object to paying 15 cts. a pound for useless glass. The market demands sections of different sizes; but the one-pound leads the van. Spruce and poplar should be substituted for basswood, as they are harder, and it "saves the basswood."

### FOUNDATION VS. EMPTY FRAMES.

Have small brood-nests, put only starters in the brood-frames when you hive a swarm. Try it, ye doubters.

EXTRACTED HONEY LOSES ITS FLAVOR by being exposed to the air.

### KEEPING COMB HONEY.

Comb honey can be kept by having it in a dry warm atmosphere. Have no pollen in it, and the moth will not trouble it. The fumes of burning sulphur settle. Have the honey at the bottom of the room. Set fire to the sulphur by throwing into it a hot iron.

### 50 LBS. OF SUGAR SYRUP.

Two parts sugar and one water, fed to a colony of bees in the fall, will enable them to build combs in empty frames, store the syrup, and winter well in a cellar.

### ALSIKE CLOVER

can be grown at a profit, as a honey-plant, on land worth \$50 per acre. It has yielded more than \$25 worth of seed per acre. Sow the seed of honey-producing plants, those that produce honey alone, upon waste places *only*.

### BEEES BY THE POUND

should not be gorged with honey, and, when shipped, should be furnished with "Good" candy, and kept out of the sun. To secure good results, the bees should be young and the apiarist skillful.

### BEE-STINGS, GLOVES, CLOTHING.

Cut off the ends of the fingers of rubber gloves; it allows the sweat to escape. They are then more comfortable, and last longer. Wear smooth clothing, since the hairs from the hands and wrists, and the number of stings received will be lessened.

### COMB FOUNDATION.

If the wax is the same, the "make" of fdn. has but little to do with its acceptance by the bees. Comb drawn from fdn. is tougher than natural comb, hence the fdn. in surplus honey should be *very* thin. Roller-mills can make thin fdn. if the wax is *not* sheeted thin; presses can not. Fdn. that has been closely boxed is hardened but little by age. Soaking old fdn. in warm water will remove the bluish color that it has acquired, and make it soft.

### BEE-KEEPING AS A BUSINESS.

Whether bee-keeping "pays" as compared with other business, depends upon the "other" business. If one can make more at some other business, then it doesn't "pay;" if not, then it does. Each one must take *every thing* into consideration, and decide for himself.

### REVERSING COMBS.

Besides the oft-repeated advantages of reversing combs, there is now claimed the additional one of its discouraging swarming by enlarging the brood capacity of the hive, and sending the honey into the surplus apartment. If inverted at the right time, queen-cells will be destroyed. Mr. Heddon has invented a reversible hive and section-case.



## WINTERING BEES IN CELLARS.

The temperature of our bee-cellars can be kept higher than we have generally supposed. From 60° to 90° have given excellent results. With a high temperature, no absorbents are needed. A damp cellar requires a higher temperature than a dry cellar. But little ventilation is needed. Bee-bread in the hives does no harm, if the conditions are such that the bees do not eat it; and it appears that a high temperature is one of the conditions. In a warm cellar, bees will breed in the latter part of the winter, and weak colonies thus become strong. Prof. Cook explained that bees could breed without taking pollen into their intestines; but Wm. F. Clarke asserted (and was supported by Bro. Jones), that the rearing of young was the *hardest kind of work*, requiring the consumption of nitrogenous food by the bees themselves.

## DIFFERENT RACES OF BEES.

Pure Syrians and Cyprians are excellent bees for warm countries, but not for Canada. When pure races meet the requirements it is well to have them in all their purity. Crosses between Italians and Cyprians or Syrians, and between Carniolans and Cyprians or Syrians, give the best result. The blacks are excellent comb-builders, and keep the honey out of the brood-nest.

## TAKE PAINS IN REARING DRONES,

the same as in rearing queens. Remember that prepotency is on the male side.

## PUT THE BROOD-COMBS CLOSE TOGETHER,

and it will "squeeze" the bees into the sections. The combs can be close together as 1¼ inches from center to center. This also discourages the building of drone-comb.

## "ACCORDING TO NATURE."

This phrase has been a stumbling-block in the way of advancement. It is not a question of "naturalness," but it is, "all things considered, is it best?"

If I have not, in the above brief notes, given the proper expression of the convention, I hope to be corrected.

W. Z. HUTCHINSON, SEC.

Rogersville, Mich.

Friend H., you have given the sum and substance of the principal points discussed while I was present at the convention, and we owe you a vote of thanks for having succeeded in boiling it down so well, only you have got it a little *too* brief, if any thing. I would remind our friends that the conclusions arrived at which you have, I believe, truthfully reported, were, at least many of them, decided upon only by prolonged and exhaustive discussion; and the intelligence that was brought to bear on these subjects, and such keen, strong intellects as grasped the different points, are not often brought together in one meeting. I was not present when the point you mention, "According to Nature," was discussed; but I have often felt what you express there. We do not manage bees according to nature, nor strawberries, nor anything else, nowadays; but we make even the frost and the snow, the thunderbolt and the torrents, do our bidding; and who shall say that we may not some time, after a feeble fashion, perhaps, make even the winds and the waves obey us, something in the way they obeyed the Master in olden time?

## FALSE STATEMENTS IN REGARD TO THE HONEY BUSINESS OF OUR COUNTRY.

As a protection to our bee-keeping population, we propose in this department to publish the names of newspapers that persist in publishing false statements in regard to the purity of honey which we as bee-keepers put on the market.

## ARTIFICIAL EGGS AS WELL AS ARTIFICIAL COMB HONEY.

INCLOSED I send you a slip cut from the New York Tribune of Dec. 15th, in regard to artificial eggs. As things artificial are being much discussed, and as some claim that a poultry-yard is a necessary auxiliary to an apiary, I inclose the above, hoping that, if you find it interesting, I shall hear your views in regard to it in GLEANINGS.

Yonkers, N. Y., Dec. 16, 1885. G. WIEDERHOLD.

Friend W., I am very much obliged to you for the slip inclosed. Since you sent it, it has been copied widely into other papers. I will make a few extracts for the benefit of our readers:

In the back room of a Broadway office a curious invention was exhibited yesterday to several provision dealers and merchants. The invention consisted of a number of artificial eggs, which resembled the real article so exactly that none but an expert could distinguish them. The shells were made of a clear, transparent composition, and the shape was perfectly modeled. The portion surrounding the yolk was made of albumen, and the yolk itself of ground carrot and saffron. Three of these artificial eggs were placed on a platter by the exhibitor with half a dozen real ones, and the men present were told to select the bogus ones from the collection. The first expert exposed his ignorance by picking out three real eggs and declaring them to be artificial. The second, with a little better luck, owing partly to his avoiding the three selected by his unfortunate predecessor, managed to pick out two of the real eggs and one of the artificial ones. Thus with varying results each of the six men tried his skill in determining the difference between the eggs by their appearance. When each had had a trial, and failed, the exhibitor said:

"Now, gentlemen, you can test them in another way." A frying-pan was then placed on the stove, and in a few minutes it began to simmer. Two of the artificial eggs were picked up, their shells broken, and the contents dropped into the hot pan where they soon began to simmer and sputter. A little salt and pepper, a brisk two minutes' stirring with a fork, and as fine a dish of scrambled eggs as could be prepared at a restaurant was placed before the expectant guests.

"Help yourselves, gentlemen. They are as good as the real article. Nothing poisonous or disagreeable about them."

This invitation was complied with at once, and the several verdicts were: "Delicious," "Better than the real article," "What are they made of?" "They are not artificial, but fresh eggs from the country."

"Well, gentlemen," smilingly responded the exhibitor, "whether real or artificial, I can make any quantity of those eggs at a cost of about half a cent apiece, while you can not buy their equal for less than two or three cents. You have just had proof that you can not tell them from the real article by their appearance or by their taste when scrambled. In an omelette there is equally no perceptible difference, but when boiled the imposition is much more easily detected. But even then nine people out of ten would be deceived, as the only difference lies in the fact that the yolk and surrounding white portion will not harden separately as they do in the real egg. The flavor is about the same, which after all should be the main consideration. It is my intention to put these artificial eggs on the market soon, and my object in inviting you here to-day was to make you favorably impressed with them. I think I have done it. Good-day, gentlemen."

Of course, the above is a newspaper caricard, and nothing else; but I do think the N. Y. Tribune might draw a little stronger



line between truth and fiction. As if to mislead such of their readers as might not readily comprehend the above sell and joke, they go on in the same article as follows:

There is some stir in Paterson over a theory entertained by some provision-dealers that somebody has been imposing on them with artificial eggs. Garrett Onderdonk, a farmer from Rockland County, N. Y., came into Paterson on Saturday with a lot of eggs which he sold to various dealers. George W. Saunders, a grocer, bought some, and found, as he alleges, that they were not genuine, as they had been represented to be. Saunders went before the Recorder and made a complaint against Onderdonk, alleging that the eggs were sold as fresh country eggs, whereas they were what are known in the trade as "pickled eggs," and that thereby a law of the State of New Jersey against the sale of adulterated food products was violated, the eggs having been treated by some peculiar process so as to look like a recent barnyard product. Onderdonk was arrested and pleaded guilty, and Recorder Greaves fined him \$50, which Onderdonk paid and left the city. He has not returned since.

But, what has this transaction to do with artificial eggs? Why, nothing at all, of course; but the Cleveland *Leader* of Dec. 16 lays hold of it, and then announces:

In our telegraphic columns will be found an account of the arrest and punishment of a man who pretended to be a Rockland Co., N. Y., granger, and sold to Paterson, N. J., merchants several dozen bogus eggs. The shells were made of a transparent composition, and were perfect in shape; the whites of albumen, and the yolks of ground carrots and saffron. In boiling, the bogus character of the eggs was easily seen, but it is evident that the imitation was a very good one.

This is a fair illustration of the way in which unscrupulous editors pass about these fraudulent statements. I am glad they have got to telling such abominable falsehoods that any one of good common sense knows better. At our teachers' meeting a few nights ago our minister made the remark, that when people commence telling falsehoods about us if we let them alone they will soon overstep the mark so far that no one will believe them, thereby killing what influence they possessed themselves; or, if you choose, branding themselves as liars, without any necessity for the innocent party to say a word. It seems as if it were going to turn out so in this case. And now I have been wondering if it were not about time for bee-keepers to write to editors who have been publishing these statements, and give them to understand that we as a body of bee-keepers propose to refuse to subscribe to any paper that gives place to these slanderous statements. If they have been giving place to them innocently or by falsehood, is it going too far to demand that they recall or contradict the slanders cast upon us? I hardly need say, that it is beyond the power of man to make any thing that could be called even a tolerable *imitation* of an egg. The stories in regard to it now going through the press are a disgrace to an enlightened nation. One editor, as if to shame his contemporaries, has already announced that these artificial eggs are not as yet *quite* capable of being hatched into chickens, but that the inventor thinks he will fetch *even that* in a few days!

LATER.—The following is sent us by one of our subscribers, who clipped it from the Cincinnati *Commercial*:

#### ARTIFICIAL EGGS.

NEW YORK, Dec. 15.—A number of dealers in eggs

and produce in Paterson were called on, Saturday last, by a man representing himself as Garrett Onderdonk, of Rockland Co., N. Y. He sold each a load of fresh country eggs at a remarkably low figure. The eggs were delivered by another man, to whom the dealers refused payment. Yesterday Onderdonk called for his money, but was arrested, under an act prohibiting the sale of adulterated food. He pleaded guilty, whereupon he was fined \$50.00 and costs. This he paid promptly, and left the city without attempting to collect for the eggs delivered. He admitted to several dealers that the eggs were artificial, and were manufactured by a firm in Newark, whose name he declined to disclose. The shells were made of a clear, transparent composition, and the shape was perfectly modeled. The portion surrounding the yolk was made of albumen, and the yolk itself of ground carrot and saffron.

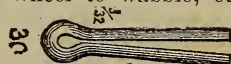
Onderdonk was simply arrested and fined for selling stale eggs; the *Leader* changes it to "several dozen," artificial eggs, and the *Commercial* jumps to a "load" to each of a "number of dealers."

#### SPRING COTTERS AND GIMLET-POINT-ED HOOKS.

##### SOME USEFUL HOUSEHOLD ARTICLES.

WHO has not felt the need of a better "linch-pin," not only for children's carts, wagons, and carriages, but for different kinds of agricultural machinery? A bent wire is often used, but it is not strong, and gets twisted, and drops out, and then something must be procured as a substitute. A nail is driven, and this either drops out again, or splits the axle. If you try to bend it over it breaks off, and is unsatisfactory any way. A wire nail does better, for it can be bent so as to prevent dropping out; but this same bending property makes it bend when you don't want it to, allowing the wheel to wobble, etc.

The cut adjoining shows what is called a spring cotter.



3/4  
SPRING COTTER, OR LINCH-PIN.

It is made of tempered steel wire, shuts up easily with the fingers when you wish to put it into the hole, but springs open again so it can neither rattle nor drop out. I found them in the price list of a wire-goods circular, and we have procured and now keep in stock 10 different sizes, length as follows: 1 inch, 1½ inch light, 1½ inch heavy, 1½ in. light, 1½ inch heavy, 1½ inch light, 2½ inch heavy, 2½ inch light, 2½ inch heavy, and 3 inch heavy. The first 6 are sold at 10 for 5 cts.; the next 3 are sold at 5 for 5 cts., and the largest size at 3 cts. each. This last is just right to fill a ½-inch hole.

Besides the above, we find, in the same catalogue, gimlet-pointed wire hooks which we illustrate in the cut adjoining. We keep all of these in stock,



GIMLET-POINTED HOOK.

4 sizes — 1½ inches long, 2 inches, 3½ inches, and 4½. The first two are, 10 for 5 cts.; the next largest, 5 for 5 cts.; largest size, 3 cents each. The largest size would probably hold 500 lbs.; the smallest size, perhaps 10 lbs. If these goods are wanted by mail, add one-fourth the amount for postage.

## EIGHT OR TEN FRAMES, WHICH?

GOOD REASONS FOR PREFERRED THE LATTER;  
CONTRACTING.

**B**EFORE this question drops out of discussion I wish to say a few words on the subject. For the two last seasons I have been testing hives of eight-frame capacity. My experience is not extensive with such small brood-apartments, but sufficient to furnish a pointer in the right direction. Since quite a small boy I have kept an apiary of an average of 75 colonies. I am now 43 years old. This gives me, as you see, a deal of experience, especially when I tell you that I have used hives holding all the way from one peck to five bushels, and have used frames of nearly all shapes and sizes.

About twelve years ago I settled down to the use of a hive containing ten L. frames, which seems to me to be the nearest the proper size of any other for most localities. By the use of contractors, suitable space may quickly be arranged to suit the requirements of any size of colony; and by the use of chaff division-boards, or contractors, made to take the place of the two outer frames, the space is reduced to the capacity of an eight-frame hive, and that, too, without interfering with the size of the surplus apartment. Cases and crates used for ten-frame hives in the surplus apartment may also be used on the so-arranged eight-frame hives, and no confusion. So much argument was produced in favor of eight-frame hives, I decided to reduce the brood-apartment of a dozen hives to this number, which was done by the before-described method.

During the first season's experience with these hives, my bees were at no time, by a good honey-flow, led up to the swarming-point.

About the same amount of surplus was taken from these eight-frame hives that was taken from my ten-frame hives. By a close estimate the small hives contained 9 lbs. less honey to begin the winter on than the ten-frame hives had; and as no honey was gathered the following season before June 10th I had to draw on the ten-frame hives for honey to run the small hives through.

Here it may be well to remark, that as it is true that farmers and nearly all bee-keepers having less or more bees, but making this branch of rural economy but a secondary matter, will be found negligent in the care of their bees, and, in consequence, would lose more extensively with hives of small capacity. Hence it may be easily seen that even the specialist must give more time, more labor, and more frequent manipulations where small hives are used.

As my second season's experience with the eight-frame hives was even worse than the first, I soon abandoned the use of them. Soon after the honey-flow began, and just as my bees had made a fine start in the sections, the swarming fever broke out in the apiary, and within three days 11 of the 12 eight-frame hives had swarmed, while but one in six of the ten-frame hives swarmed that season; and as I wished to conduct my apiary as far as possible on the non-swarming principle, I at once was out of conceit of hives of less capacity than ten frames. There is a difference of opinion about this matter of running bees on the as-far-as-possible-non-swarming plan; but with me this plan is the most profitable, and reduces the running expenses, as well as the labor of the apiary, to the minimum.

If I may be indulged further I should be pleased to say a few words on the question of  
CONTRACTION.

Taking into consideration the extra time and labor of, first, contracting the brood-nest to five or six combs, at the time of putting on sections, trouble in disposing of the extra combs removed, the materially lessened room left *immediately above* brood-combs for sections; and, second, the returning to place combs that were taken away, cost of sugar, preparation and feeding of same, expense of feeders, etc., would the apiarist be any better off with this system of management than he would be were all the frames left undisturbed in the brood-apartment throughout the year, and take what surplus the bees were able to produce? I am of the opinion, that, taking a number of years in succession, the best results would be obtained by leaving all the frames in their proper place. What can be gained by forcing all the honey into the surplus receptacles, to be extracted and sold in a hard market at 7 cents per lb., "keg thrown in," then go home, buy sugar at about the same price to feed up again for winter? Yes, I've tried this too. Why not take just what your bees can spare, stored in sections, or surplus combs for the extractor, and, when removed, replace your slatted honey-board, put on quilt, then chaff cushion, and go away from them? They are ready for the winter.

J. A. BUCHANAN.

Holliday's Cove, W. Va., Dec. 10, 1885.

Friend B., although I have not experimented as you have, I had come to the same conclusion you do, and for about the same reasons. The greatest reason besides the above is, that the eight-frame and ten-frame hives could not be made interchangeable when used on the Simplicity plan. I think it would be a serious mistake to commence making narrow hives.

## THE HONEY-MARKET OF NEW YORK.

SINGLE-TIERED CRATES VERSUS THE DOUBLE-TIERED;  
ADULTERATION OF FOOD.

**D**URING my stay in New York I have taken some pains to look into the honey-trade of that city, and the results of my investigations are as follows. Thurber, Whyland & Co., have on hand from 50 to 60 tons of as fine a lot of honey as I have seen. Messrs. McCaul & Hildreth Bros., who give quotations of honey in GLEANINGS, have about 35 tons. Something over half of these lots of honey is comb honey, put up in single-tiered crates; that is, those having but one layer of sections. These crates are very similar to the Heddon-Hutchinson style—a cut of which appeared in the last issue, and do not hold over 15 or 20 lbs. of honey. Neither of these firms cares to handle honey in the double-tiered crates. The reasons given by them for rejecting the double-tiered crates are about as follows, and are similar to those given by Heddon:

The sections are not as easily gotten out, are more apt to be daubed, and during shipment are not as liable to be broken. I am satisfied, from conversation with these gentlemen, that the 48 or 50 lb. crate or case is undesirable, being both unwieldy by reason of its weight, and not as salable as the smaller package. It is no easy task to lift a 50-lb. crate of honey to or from a wagon or car. A smaller crate will always insure more careful



handling, and therefore be less liable to breakage. Again, consumers prefer to buy the smaller packages to the larger. These reasons have already been considered before, but are the opinions of the large wholesalers. Although honey is selling well at present, these wholesalers state that it is difficult to conceive the amount of damage and pernicious effect these newspaper canards have had upon the trade. They can scarcely convince their customers that their honey is the pure article, such has been the effect of these sensational falsehoods on the market of New York.

#### THE ADULTERATION OF EGGS AND HONEY.

Now that the papers have proven to *their* entire satisfaction that comb honey can be successfully manufactured, they come out, with unblushing ignorance, with a sensation more ridiculous; namely, the manufacture of eggs, a clipping of which I sent, and appears in another column. You observe, that they *assume* that comb honey has been manufactured, and that "Yankee ingenuity" (of which we ought to feel so proud) has made another big stride (?) in manufacturing the egg. They even claim that not only the yolk and the white of the egg have been imitated, but assert that the film just outside, and adhering to the shell, has been made. Then with apparent candor that savors of the false statements of the honey trade, state that these eggs can not be detected from the genuine, except as they are boiled. In conversation with a number of prominent New York merchants dealing in dairy products, I learned, as I had expected, that the thing was a falsehood, and an utter impossibility. Below will be found a clipping that is just to the point — taken from Harper's *Weekly*, page 859:

Of all things that are ridiculous one would least like to believe that an artificial egg can be made so nearly resembling a hen's egg that a man will break it, and put salt on it, and eat it with a spoon, without suspecting that it was not laid by a hen. Such eggs, however, have been exhibited in this city, according to (false) report, and it is declared that they can be made and sold at a profit for half a cent apiece. It beats all; nothing is impossible if this is true. Will it, however, be too much to ask the inventor, after the world has become convinced of the reality of the perfect imitation, to make a new and more convenient style of shell for the eggs intended for common use? The shells should be a trifle tougher, if it is not impertinent to say so, and should be made to unscrew, and be provided with some sort of little antiphlogistic handles, so that one may open them, when boiled, neatly and without pain.

Now, if the same inventors referred to in the above will turn their miraculous genius (?) to manufacturing an article of comb honey whose cells will be like india-rubber, will not melt down, break, smash, or leak, and yet retain the appearance of comb honey, they will confer an everlasting boon on humanity. We shall then have eggs that "unscrew," honey that won't smash. If said papers continue at this astounding rate, "Yankee ingenuity" will produce artificial fish, oysters, lobsters, and what not at a very small cost. I do not mean to condemn all newspapers. They have their legitimate place, and are almost indispensable to the public; but when they meddle with business that they know nothing of, I think it is time to protest. No doubt milk and butter have been adulterated to some extent, and it is proper that such frauds should be shown up; but it is not a fair conclusion to infer that all other foods are adulterated as well.

ERNEST R. ROOT,

Passaic, N. J., Dec. 24, 1885.

#### BEES EATING CLAY.

ALSO SOME KIND WORDS FROM AN OLD FRIEND,  
FOR GLEANINGS AND HIS BROTHER  
BEE-KEEPERS.

IT is now nearly half a century since I commenced to handle bees. I have been engaged in bee culture ever since, and found it profitable, and very interesting, and pleasant. My apiary is nicely located near the public highway, most of it shaded with grapevines. My hives combine mostly the modern improvements of the age.

Within a few rods of our apiary we have a beautiful vineyard, and keep many sheep, all on the same farm, where white clover is abundant; yet I have never discovered that any one of them has been a serious injury or detriment to the other. If any distinction can be made, I should think it would be in favor of the bees. As it has been quite cold, and the ground frozen for some time, the bees could not venture out. But as it has now thawed, and teams have cut up the fresh yellow clay, while the bright sun and wind are drying this clay it reminds one of fresh maple sugar just stirred off.

Well, on the 24th the air was so balmy, the sun shining bright, my bees concluded that now is the appointed time to get a good dinner from the soft fresh clay, preparatory to another cold blast-guided, no doubt, by the same instinct and desire that directs large animals, such as horses, hogs, sheep, and other clay-eating animals.

Now, let me tell you how I was delighted with the bees yesterday. While I was helping one of my sons, who are farmers, to put a new bottom in a wagon-box (as I am a wood mechanic), and working on the opposite side of the public highway near the apiary, we were busily at work when I heard a sound of bees, much like that of swarming. We stopped work to discover what they were up to; the air appeared to be filled with bees, flying thick as in June. They were flying in various directions, and alighting on the ground. I soon discovered what they were up to, so I laid down my tools to watch them, as I have often done at other times. The road was dotted thick with bees, as I could distinctly see when looking toward the sun. I observed them in many other places where the clay had been lately disturbed. I do not think they were seeking water, as it was plentiful and not difficult to get. After closely watching them they invariably seemed to select the driest clods, and, as nearly as I could ascertain, they appeared to me to be eating clay. If so, perhaps the want of it is the cause of diseases which the long cold weather is very likely to bring. Well, the result was, the wagon-box did not get finished that day, as such a fine opportunity offered to go about watching these little creatures, to find just what they were really doing.

It is a rare thing to see bees out in such force, and at this season of the year up here near the northern lakes, and so deeply and busily engaged on the ground as to take little or no notice of anything else, although when I would put my glass too near their little nose in order to find out what they were really doing, by my prying into their business matters too much they would become indignant at my impertinence, and reluctantly fly away in such a manner that I almost fancied I could see them lay their little ears back with "pure mad."

Well, just at this time a bundle of mail matter

came, so I went to the house and opened the package, when out tumbled GLEANINGS. On the wrapper the word, in large capitals, "NOTICE." Then followed, in smaller type, these words: "If we are correct, your subscription expires with the present month." (Just like Mr. Root; he did not want to be too positive, although he felt quite sure.) Oh, if all men would be as careful, what a world of pleasure this would be! Then on the wrapper I further read: "If you have found GLEANINGS so far a good investment, we shall be pleased to continue your name on our list. As this is a question that rests with you alone to decide, we can only tender you our thanks for past patronage, and wish you success in bee culture for the future, whether your decision should favor ours or not."

Now, how was I to decide such a case as that? In my library and on my table is a copy of nearly all the bee-journals published. I can not well afford to take all of them, nor would it be good economy to do so. Well, friend Root, I have not a word of disparagement to say of any of these bee-journals; but I find, as GLEANINGS has been coming regularly for years, not one copy was missing or out of regular time. It has more than filled my expectations, and proved of great value and satisfaction to me. I consider it a very good investment, even if I keep no bees. As to its arrangement as a bee-journal, I would not attempt to dictate, nor could I make any suggestions that would be an improvement; so, as my name is on your list, I will send you in this mail an order for another year's subscription.

Remembering you for your kindness and fair dealings, with the many good things I have read in the A B C and GLEANINGS, permit me to thank you, wishing you a happy Christmas and prosperous new year; extending the same to all the bee-friends, and especially those who have contributed so many good things to me through GLEANINGS, I am, respectfully,

JOHN W. NIMAN.

Spring Mills, Ohio.

Thank you, friend N., for your very kind letter; but it seems to me your experiment is hardly conclusive, that the bees really gathered the clay and not the water it contained, unless you saw them pack the yellow clay, like pollen, into their pollen-baskets. We have had reports of bees packing black peaty soil, just as they pack pollen, and carry it into their hives, and I should not think it very strange if they sometimes used some kinds of yellow earth. It is well known, the way in which they appropriate sawdust; and why may not this material answer as well? Can any other friend give us any light on the subject? and do they pack clay on their legs?

## NOTES AND QUERIES.

A REPORT FROM MRS. L. HARRISON.

**T**HE winter thus far in this locality has been very favorable for bees on their summer stands. I notice that, from hives protected most, fewest dead bees are carried out.

Bees flew finely several days this week; and after they were quiet, part of them were stored in the cellar. The dozen queens purchased of you last summer all proved satisfactory.

Peoria, Ill., Dec. 26, 1885. MRS. L. HARRISON.

### TEMPERATURE OF THE EARTH AND WELLS.

I have just tested the water in my well, which is 25 ft. deep. The temperature is 45°, water pumped from the bottom. Temperature of the atmosphere, 24 above zero at the time of test. I made a test during the warm weather of summer, and the temperature was no higher than now.

H. R. BOARDMAN.

East Townsend, Ohio, Dec. 26, 1885.

### TEMPERATURE OF DEEP WELLS.

I have just read friend Doolittle's remarks, and your comments, on "Temperature of the Earth," and tested my 60-foot well with two good thermometers by completely immersing them in a freshly drawn bucket of water. The bath showed exactly 54 degrees. Terre Haute lies between 39th and 40th degree north latitude.

T. H. KLOER.

Terre Haute, Ind., Dec. 25, 1885.

### HONEY-PAILS; WIRE CLOTH AS A FRUIT-TREE PROTECTOR.

I was well pleased with my honey-pails, and find it the best way to handle extracted honey. I think my experiment with the wire cloth as a fruit-tree protector is going to be a success. If so, look out for orders for wire cloth from this locality next season. I will send my honey report for this year soon.

W. G. CONDON.

Clinton, Mo., Nov. 10, 1885.

FROM 300 STANDS TO 500; 8925 LBS. OF HONEY, \$150 IN CASH, AND 500 LBS. OF BEESWAX.

Bees are in good condition. I commenced in the spring with 300 stands of bees; sold 50 stands at \$3 a stand; increased the remainder to over 500 colonies, all in good condition; also got 15 barrels of honey, each barrel holding 45 gallons, and got 1500 pounds of comb honey in sections; also by pruning and cutting out all drone-comb I have accumulated 500 pounds of beeswax, which I think is not a very bad crop for this year's work.

E. STAHL, JR.

Kenner, La., Dec. 23, 1885.

### SCREENS FOR FISH; SWINDLES.

Yours with zinc, received. If thicker, this material would answer for small screens, temporarily. There would be danger of breaking them when cleaning. Heavy, substantial galvanized wire screens are safest, and consequently best and cheapest.—Look out for the newspaper swindler "Bain," with his pretended "Fish-Cultural book," alias LeMorris, alias U. S. Fish Co., Columbus, Ohio.

MILTON P. PEIRCE.

Philadelphia, Pa., Nov. 24, 1885.

[The above refers to the Jones perforated zinc which I sent friend Peirce, with inquiry if it would not answer for outlets to carp-ponds.]

### A WOMAN'S SUCCESS.

Mrs. Thomas, of Philadelphia, reported at a meeting of beekeepers in Trenton last month that she had obtained an average of 150 lbs. of honey from 20 colonies, or a total crop of 3000 lbs. This was extracted honey, for which she received 25 cts. per lb., netting her, therefore, \$37.50 per hive. She also cleared last year \$1000 from her poultry-yard, and runs a twenty-acre farm besides.

[The above was clipped from one of the newspapers. The price our friend received for her honey, it seems to us, was extravagant; but the yield mentioned is not extraordinary. Perhaps we should make some allowance for newspaper exaggeration, but I am rejoiced to know that women can manage these rural industries with as much wisdom, and many times more, than our own sex.]



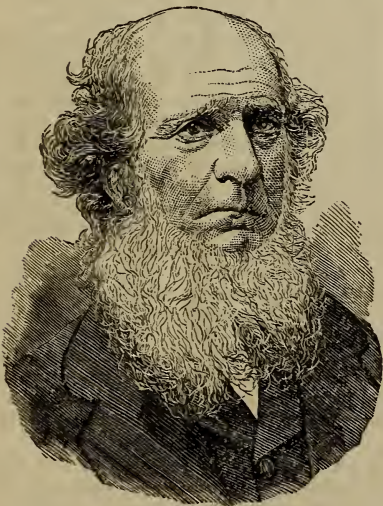
## IN MEMORIAM—WM. W. CARY.

FROM OUR OLD FRIEND MR. LANGSTROTH.

**H**E was born in Coleraine, Mass., Feb. 24, 1815, and died Dec. 9, 1884.

It affords me a melancholy satisfaction to review my long acquaintance with the late Mr. Wm. W. Cary, and to set out more fully than has yet been attempted, some of the important services which he rendered to bee-keeping. To do this seems to me the more obligatory, as he so seldom used his pen for the press that these services might fail to be put on record.

After testing quite largely my movable-comb frames in West Philadelphia, in the bee-season of 1852, in the fall of that year I went to Greenfield, Mass., to introduce my hive where I was best known as a bee-keeper. Mr. Cary kept some bees in the adjoining town of Coleraine, and was among the first to take an interest in my invention. He was very fond of bees, and more than usually familiar with their habits—and as soon as he saw the working of the hive, he believed that it would make a revolution in bee-keeping. For the six years that I remained in Greenfield, we were in such frequent communication that, in furthering my experiments, his apiary was almost as much at my service as my own.



WILLIAM W. CARY.

In the spring of 1860 I was invited by Mr. S. B. Parsons, of Flushing, L. I., to advise him how best to breed and disseminate the Italian (Ligurian) bees which he had recently imported. Finding that the person who came in charge of most of these bees could not do the work that was expected of him, I advised Mr. Parsons to secure the services of Mr. Cary. To great energy of character, and good business habits, he united long experience in the management of movable-frame hives, with an enthusiastic desire to see the introduction of these foreign bees made a success. From my intimate acquaintance with him I could further assure Mr. Parsons that, with all these requisites for the position, he possessed in as large a degree as any one I had ever known, that "highest fidelity" which Columella, nearly 2000 years ago, declared to be an essential qualification for the superintendence of an apiary

—and which he thought was very rarely to be met with. Is it much easier to find that now than it was then?

Mr. Cary's work in Mr. Parsons' apiary fully justified his selection. While the foreigner, in a separate apiary established by Mr. Parsons, and furnished with just the same facilities for breeding queens, failed to rear enough even to pay for the black bees and feed he used in his operations, Mr. Cary supplied all the queens needed in Mr. Parsons' apiary, and filled all his numerous orders.

No better proof could possibly be given of the extent and thoroughness of his work, than the fact that 113 queens bred by him that season were so carefully prepared for shipment, under the joint supervision of himself and Mr. A. G. Biglow, that all except two of them were safely carried by Mr. Biglow from New York to San Francisco! Mr. B. had stopped over one steamer on the Isthmus of Panama to give his bees a cleansing flight, and one queen entering the nucleus of another, both were killed. The colonies to which they belonged, when examined on their arrival at California, were each found to have reared another queen.

To appreciate fully the extraordinary success of Mr. Cary as a breeder and shipper of Italian queens, it needs but to be stated that during this very year but few queens came alive, out of the many sent from Europe, and that, for years after, a large part of our imported queens either died on the way, or arrived in such poor condition as to be of little or no value. It will be remembered by some of the old readers of the *American Bee Journal*, that Mr. Cary was the first person to send a queen across the ocean, in a single-comb nucleus, with a few workers. She was consigned to my lamented friend, Mr. Woodbury, of Exeter, England, and reached him in excellent condition. Those who now receive the queens which are sent by mail from Europe, and even from Syria, should bear in mind that only after many and costly experiments has such admirable success been secured.

After his splendid achievements in Mr. Parsons' service, Mr. Cary greatly enlarged his own apiary, and placed himself in the front rank of reliable breeders of Italian queens.

When Dr. E. Parmlly, of New York, imported a number of Egyptian queens, he entrusted them to Mr. Cary, having, as I know, as strong confidence as myself in his sagacity and fidelity. Mr. Cary first called my attention, in his own apiary, to the inferior appearance of the comb honey of those bees. It was capped in such a way as to look like honey damaged by "sweating"—so called—after being kept in too damp a place. He was also the first to notice that Egyptian bees, in extending their combs, built their lower edges almost perfectly square throughout their whole length—in marked contrast to the way in which black bees build them—and improving in this respect even upon the Italians. Although I imported the first Egyptian queen, Mr. Cary had the largest experience with this variety, and after a fair trial we both discarded them as very much inferior to the Italians.

While Mr. Cary was a great enthusiast in bee culture, and always ready to accept every discovery and improvement, he was not carried away by plausible novelties or conceits. When near him, I always took peculiar pleasure in communicating to him all matters that from time to time were engaging my attention, and our occasional meetings

in later years were highly prized. He seldom failed to detect any flaw in what was submitted to his judgment, and his deliberate "yes" or "no" had greater weight with me in bee-matters than that of almost any other person.

Mr. Cary's location was inferior in honey-resources to those who in this country have achieved the greatest pecuniary success from the keeping of bees; he was also quite lame, from an accident in his youth; yet notwithstanding these and other obstacles, he built up gradually a large apiary. He was not only a strictly honest man, but a highly honorable one in all his dealings; and in cases of doubt he made it his rule to give his customers the benefit of that doubt, instead of claiming it for himself. Like myself he had the help of an only son in the management of his business; but, happier in this respect than myself, he was not called to lament his premature death.

Mr. Cary's interest in bees ceased only with his life. A few weeks before his death he was able to be out in his apiary, where he witnessed with much pleasure some novel arrangements for the safe wintering of a colony in the open air.

Samuel Wagner, Moses Quinby, Richard Colvin, Adam Grimm, Roswell C. Otis, Wm. W. Cary — they have all passed away! And probably no one knows better or appreciates more highly than their old friend who still survives to honor their memories, how much their various labors contributed to the splendid success of the movable-frame principle in American bee-keeping. L. L. LANGSTROTH.

Oxford, O., Nov. 10, 1885.

Perhaps we should apologize to our readers for giving the above so long after it has appeared in other journals, especially as the main part of GLEANINGS is, as a rule, original matter. In sending to us the copy, friend L. requested that it should not be put in print until the engraving of friend Cary was sent us, and it has only just come to hand.

#### REMOVING THE FRAMES FROM THE UPPER STORY OF CHAFF HIVES.

AN ADVERSE REPORT FROM SOUTHERN OHIO.

FOR some years past I have been a silent but appreciative reader of your journal, and have gained many valuable hints from its pages. It is always up to the times in advocating the use of new implements that are of real value to bee-keepers, and its columns are always open to suggestions as to any alterations of implements, hives, etc., which have cheapness, practicability, and real merit to commend them. As I am somewhat engaged in the manufacture and sale of hives, etc., using and advocating the Simplicity and chaff hive, I am interested in their being as near perfect as it is possible to make them. The chaff hive, as far as I can see, has but one objection as to the manipulation of the frames; that is, having the frames in the upper story run crosswise of the lower-story frames. This subject, I know, has been brought up many times; but I have never seen it settled to my satisfaction. Almost every one that I have ever talked with upon the merits and demerits of the chaff hive raises this objection. Friend Stansbury, of Long Bottom, Ohio, made me a short call a few days ago, and he objected very strongly to this feature of the chaff hive, and thought it a great detri-

ment to its use. I think I have arrived at a solution of the problem; and though it may not be entirely new, I have never seen it mentioned. It consists of a movable box inside of the upper story, made of about  $\frac{3}{4}$ -inch lumber, and of same inside dimensions as the lower story, which makes about 20 in. long by 15 $\frac{1}{2}$  wide. In fact, a Simplicity body, if a trifle short, will answer the purpose admirably, especially if the upper story of the chaff hive is, in turn, a little long. This inside story being only about 16 inches in width, leaves ample room to get the hands down at the sides to catch in the hand-holds to raise the story out of the hive. Now place your frames in this and you have as near a Simplicity hive inside of a chaff hive as you would wish. If you would utilize the vacant space left, you can easily arrange it for a single brood-frame at each side, and give the bees access to them. But I think the box will give sufficient room for most localities.

Now, any one can see that the tiering-up system, of which Mr. Heddon is so earnest an advocate, can be easily used by making a thin upper story for the chaff hive, just high enough to admit of another box or Simplicity body being placed on top of the one in the upper story of the chaff hive. The advantages of this system are, that free access can be had to the brood-chamber, and no necessity for having 10 wide frames standing around in every direction while you perform the necessary manipulations.

But there are seldom great advantages without some disadvantages. The only disadvantage, so far as I can see, is, that when the upper and lower frames are fastened together with comb, the lower frames (especially if metal-cornered) will sometimes follow the upper story when it is lifted out, and there is no way to loosen them as in the Simplicity. But I think if they are adjusted so as not to have over  $\frac{1}{4}$ -inch bee-space there will be no trouble. I think, also, that a modification of the Heddon honey-board could be used advantageously.

Now, friend Root, do not bring in the verdict of "too many contrivances, contraptions, etc.," for the hive need not be changed in the least. Although I have not put this into practice yet, I believe it will be a success, and therefore submit it to the bee-keepers for trial next season. This plan lessens the cost of a complete hive, as it dispenses with three wide frames, and requires only a cheap body instead.

#### MY REPORT.

As yet I have seen no reports of this season's work from this section of Ohio. I suppose one reason is, that there are no reports to make. The freezing weather of last winter, while there was no snow on the ground, resulted in an entire failure of the white clover, and therefore a failure of the honey crop. My report is about as follows: Increased from 18 to 25, and doubled back to 21; took four sections of honey, worth about 10 cents apiece, and extracted about 50 lbs. of sumac honey. I shall have to feed about 100 lbs. of sugar. I suppose this is about as good a report as any bee-keeper in this section of the country can give. We hope for a better season next year.

#### QUEENS HATCHING FROM THE CELL WHILE EXAMINING THEM.

I had a rather unusual occurrence in the queen-hatching line this summer. While waiting for an after-swarm to settle I opened the hive from which it issued, to save some queen-cells. The first cell I came to I laid upon a hive near by in the shade. While looking further I happened to glance around,



and I saw a queen running around on top of the hive where the cell was laid. She was caged, and further search resulted in finding two more cells in which the queens were pushing the caps up so with their heads that I had to hold the caps down until I got them caged. Three queens hatched within three minutes.

E. E. CROSS.

Racine, Meigs Co., O., Nov. 26, 1885.

Friend C., this matter has been up before, and I believe quite a number of the friends have been using Simplicity hives in the upper story of a chaff hive. Heddon's slatted honey-board would probably help us entirely over the difficulty of having the upper and lower frames built together; in other words, enable us to lift out the upper story at any time without trouble. You will need to take into account that you thus reduce the capacity of the upper story of the chaff hive. Instead of having 80 sections to fill, you have only 56 sections, and a strong colony will very likely fill the whole 80 about as quickly as they would the 56.

#### FEW OR MANY COLONIES: WHICH?

SHALL WE HAVE A FEW BEES IN MANY HIVES, OR MANY BEES IN A FEW HIVES?

**W**HILE reading the quotations from Peter Henderson's "Gardening for Profit," found on page 782 of GLEANINGS for 1885, I fell to wondering if a lesson could not be drawn from it for many of us who think we are on the right road to successful apiculture. There seems to be a growing tendency of late to multiply our number of colonies, rather than see how good results can be obtained from a few. In other words, we are using four acres of land, and expending more labor, to produce the same results which Peter Henderson's man achieved on his one acre. The question which arises is, Can or can not the bees be worked on the same plan, so that 50 colonies will produce as good results, with less labor, than is gotten from 200 worked in the way many apiaries are worked? I believe they can, and think the day is not far distant when one colony will be made to produce as good results as two are now doing, if they do not equal four. I have carefully watched the papers for the past few years, and I find it not uncommon to find where 50 colonies of bees are reported to have produced 5, 6, 7, and even 8000 lbs. of honey, while I have yet to see a report quadrupling such where four times the number of colonies were kept. I oftener find that 200 colonies give but little if any better results than do 50, while I know that more work is required to care for 200 during a year, than is required for 50. To this work we have to add the extra expense of hives, sections, etc., together with the large amount of honey it takes to feed those extra 150 colonies. This last, in my opinion, is wherein lies the main trouble in making a large number produce as many pounds per colony as do a few. From careful experiments and observations I am led to believe that it takes at least 60 lbs. of honey to carry one colony of bees through the year; hence if we get only 30 lbs. from a colony (an average yield that some bee-keepers say they are satisfied with), we get only one-third of the honey our bees gather, to pay us back for all our labor and capital invested; and also one-third of the product only, of our field. This product of the field can

not be overlooked, as I have every reason to believe, from the past season's experience.

A few years ago I was enabled to get an average of 166 lbs. of honey from each of 67 colonies of bees, as the average result of a single season. This caused a great excitement in my neighborhood, and many went into bee-keeping, until I could count over 500 colonies of bees within a distance of two miles of my house, the result of which was a gradual lessening of the surplus honey per colony, so that little more honey in the aggregate was obtained from the 500 colonies than I obtained from the 67. The past winter reduced the number of bees by about three-fifths; and the result was, that during the past season my average per colony was about 120 lbs. of surplus, and the aggregate amount of surplus about the same as from the 500. At 60 lbs. of honey as food for a colony, it will take 30,000 lbs. for 500 colonies. To this add a surplus of 15,000 lbs., which is about what was obtained where the 500 were kept, and we have 45,000 lbs. as the product of our field, two-thirds of which was consumed by the bees. This season we had but about 200 colonies on the same field, which consumed only 12,000 lbs. for their wants, leaving 33,000 lbs. as surplus. As the 200 gave about 120 lbs. each as surplus, or 24,000 lbs., we have 9000 lbs. going to waste for lack of gatherers, thus giving 250 colonies as about the right number for our field, providing that 120 lbs. is set down as a surplus with which all should be satisfied. But I claim that our bees can be so worked that 200 lbs. can be secured as a surplus from each old colony in the spring, in which case 175 colonies would be sufficient for our field. Now, I candidly ask the reader if we had not better keep the number in our field at 175, thus securing 35,000 lbs. of the 45,000 as a surplus, rather than keep 500 colonies and get only 15,000 of the 45,000 as pay for our labor, letting the bees consume the rest. In other words, can we not make a few bees do for us what the market gardeners of the large cities make a small piece of land do for them; namely, get as much profit from an acre of land as some of our county people do from their tens of acres? I know this line of reasoning can not be made mathematically correct, yet there is in this thing a large and unexplored region well deserving of our best thoughts and efforts. Who will be the first to work it out for us practically?

G. M. DOOLITTLE.

Borodino, N. Y., Dec., 1885.

Friend D., I agree exactly with you in this matter. The mania for rapid increase is oftentimes a very sad one, and beginners often seem to think it is a great thing to be able to say they are the owners of 100 or 200 colonies. Over and over again have I seen men who could winter 25 or 50 colonies, almost without loss, get demoralized, and fail, when they got up into the hundreds. It is not a very difficult matter to go over 25 colonies and put each and every one of them in the best possible shape for winter; but when it comes to undertaking to do the same thing with 100 or more, even the best of us are liable to get demoralized, as it were, lose our energy, and fail. By looking over the back numbers of GLEANINGS, especially the department headed Reports Encouraging, we find reports without number where some one, comparatively new at the business, has secured surplus in astonishing quantities from a small number of stocks. These same

individuals, when they get a large apiary on their hands, find that it is next to impossible to obtain the same results per colony, even if the locality would give it. I have myself secured over 300 lbs. surplus from a single colony. Now, an apiary of even 25 colonies, each and every one of which was made to do this, would afford a pretty fair income, and the labor to get it from 25 hives would be nothing like going over 200 colonies. I believe it would be pretty good advice for all of us to keep our bees in few hives; keep crowding them back, and discourage increase; and then when winter comes, instead of having 100 hives with bees enough in the whole lot to make only 10 good colonies, we should have, say, 25 hives with bees enough in the 25 to make 50 ordinary colonies. You know I am one of those who never yet saw too many bees in a hive at any time of the year.

#### A HINT ON INTRODUCING.

DISTURBING THE COLONY AFTER HAVING LIBERATED THE QUEEN.

THE case of O. P. Phillips (see No. 21, current Vol. GLEANINGS), calls to mind my own experience. I have learned that the bees must not be disturbed, neither at the time nor soon after the queen is liberated. Having learned this by sad experience I devised a way to do it on the sly. I place the caged queen between the frames, pressing them to it tightly, to hold it in place. To the stopper in one end of the cage I attach a strong string, and pass the end through a small hole made in the end of the hive (I use the Langstroth). After leaving this at least 48 hours I draw the stopper by the string in the night, and do it so quietly the bees will not know any thing has happened, and all is well.

It will be seen that this plan is much the same as that given by E. M. Hayhurst, at the late meeting of the Western B. K. Association at Independence, Mo. The reason these precautions are needed is well stated by him (see GLEANINGS, p. 770): "If the bees are disturbed before the queen begins to lay she will become frightened, running and piping, and the bees will chase and kill her." He says, "Before she begins to lay." I had one balled this summer *after* she had been laying, because of the bees being disturbed by my search to see if she was all right. I have never failed with the plan I have given.

J. T. GODDARD.

Muscataine, Ia., Nov. 27, 1885.

Friend G., I am well aware that bees often attack the queen, and sometimes kill her, just because the hive is opened, and they are stirred up about the time the queen is liberated. But I am also sorry to say, that they often kill queens where the cage is opened by pulling a string, or by letting the bees eat out the candy, or in other ways where the queen is liberated quietly. We have never found any way to answer so well in the long run, as liberating them by the Peet-cage plan; but even then we always think it best to look the colony over, and see how things are getting along. If the queen is killed we want to take immediate steps to put in another. If she is balled, give the colony a good smoking, and keep it up until

they behave themselves. If she is all right, just as soon as you discover she is so, close the hive very quickly, and then let them alone.—By the way, I must say once more that I think the metal corners which so many object to, very greatly facilitate opening a hive and closing it, without getting the bees stirred up. When we can open a hive so quickly that no bee thinks of stopping his work, we certainly are not doing very much harm.

#### EGG-LAYING OF QUEENS

A MATTER OF VOLITION, AND NOT AUTOMATIC.

IT will be remembered that the greatly lamented Mr. Samuel Wagner suggested that the queen was merely an automaton as to laying eggs, whether they should be worker or drone eggs.

He suggested that the mechanical pressure of the small worker-cells so compressed the spermatheca that the sperm-cells were forced out, and brought into connection with the germ-cells. On the other hand, the larger drone-cells would not exert such compression, so the spermatozoa would not be extruded from the spermatheca, and so the eggs would leave the oviduct unfecundated, and so would develop into drones, or males. We know now that this view is no longer maintained. The muscular arrangement for forcing the germ-cells out of the spermatheca; the fact that worker-eggs are often laid in cells which are hardly more than commenced; the fact that impregnated eggs are laid in the large queen-cells; and the further fact that young queens, when they first commence laying, before they have fairly "learned the ropes," as it were, very frequently lay quite a number of drone-eggs in worker-cells. All this is more than enough to convince us that the adding or withholding the sperm-cells from the eggs is merely a matter of volition with the queen. It is probably true, that young queens desire and mean to lay only worker-eggs in the worker-cells, as they rarely lay any other the first months of their existence; but lack of experience, and awkwardness in managing the delicate muscular apparatus of the spermatheca at first, cause a few slips in the early work of egg-laying; hence the scattering drone-brood, which results from a few of the first-laid eggs of young queens.

That eminent English statesman and naturalist, Sir John Lubbock, has recently given some facts that have interest in this connection, and can not but interest every reader of GLEANINGS, as they have me. As is well known, wasps are very closely related to bees in structure, and in their physiological economy; hence any fact in regard to wasps may be, *should* be, considered and studied by the bee-keeper as of importance in his work and study of his little servants.

Sir John finds, that when a wasp provisions her nest with spiders of the same kind she always takes the same number. Wasps of different species take more or less, according to the size; and, strangest of all, the mother-wasp invariably places more insects in the cell with an egg that is to produce a female, than in a cell with an egg that is to produce a male. The female wasp is the larger. Here we see that the mother-wasp not only knows the kind of an egg she is to lay, but she provisions the cells with exact reference to the necessities of the case.



Who shall be so prejudiced as to say that her waspship does not consider her act in laying the special egg, and does not think and plan in maternal acts looking to the larders of her yet unborn? Now, if a wasp realizes what she is doing as she adds or withholds the sperm-cells, to such an extent that it influences her daily acts, and modifies her performance of daily duties, who shall say that the queen-bee, of higher development and structure, does not think upon her act as she places the eggs in drone or worker cells? So we have here another proof that egg-laying, with the queen, is a matter attended with intelligent volition; and far be it from me to say that the queen does not consider the size of her home, the population of her family, and the dimensions of her larder, as she passes in stately mien over the combs, stocking the worker or drone cells as circumstances dictate. If volition and discretion are exercised, we can easily see why the affairs in different hives vary. Each queen has her own notions.

A. J. COOK.

Agricultural College, Mich., Dec. 15, 1885.

## ANOTHER USE FOR HONEY.

### EGGS NOT HATCHING; WINTERING.

IN the *Medical Times* for Nov. 28, 1885, in its Paris letter, written by Thomas Linn, M. D., there is given an important new use for honey, discovered by Dr. Comi, of Rome, by which the human body can be preserved for many years with its "natural color, form, and consistence."

"To preserve organic bodies in a flexible state, all that is required is to steep them in honey, the finest and clearest that can be found. The cephalic, thoracic, and abdominal cavities must be filled with tannin. The result obtained here is due to a sort of fermentation, alcoholic in its nature, that keeps the parts for a long time: afterward they harden."

The above facts are given on excellent authority, and are doubtless reliable.

### EGGS NOT HATCHING.

A little more than a year ago I returned to you a Howard queen-daughter, with the statement that "her eggs would not hatch." Within a week after I wrote you, "Her eggs have been, *since her removal*, hatching."

About two months since, I came across a queen in my apiary that was fourteen days old, with a large patch of eggs deposited in one comb, and I marked her "laying." A week after that I again examined the colony, and was surprised to find there was no brood nor larvæ sealed; but again, I saw a good space filled with eggs. I waited again a week, having in remembrance the queen I returned to you, and hoping her eggs would finally begin to hatch; but at the end of this week I again found only eggs; and on Nov. 4 I killed the queen, to be followed by regret that I had done it, when, on Nov. 8, I found larvæ and queen-cells started, which duly matured, but too late, I fear, for the fertilization of the young queen. I believe such cases have never been published before, but I am without any doubts as to all the facts given above. I do not know what became of the eggs, whether they hatched and were immediately carried out, or eaten by the queen, workers, or drones, until the removal of the queen inclined them to a more sensible course. I am inclined to think that this is the explanation, for there was not more than one larva to five eggs

which the queen left in the comb at the time of her removal. The colony in which this has just occurred was a very strong Palestine stock, entirely too wicked to "fool" with until after I had destroyed a virgin queen which had accidentally been allowed to hatch, and destroy the "grafted" Carniolan cell; since that they have been comparatively easy to manipulate. The colony has to-day several hundred drones in it, and I fear a virgin queen, for there has been only one day when any number of drones have been flying, and then the queen was but three days old.

### PREPARING BEES FOR WINTER.

I have no new thing to offer on this subject; but judging from the many colonies lost every winter in every section of the United States and Canada, because of ignorance or carelessness on the part of apiarians, I think the cardinal points of the subject should constantly be presented in GLEANINGS. There are three of these.

1. Contraction. This is never to be neglected where a hive as large as the Simplicity is used. If the colony is one of the strongest, I would remove three of the lightest combs and substitute division-boards. If the colony is weaker, remove enough frames to crowd the bees on the remaining combs; or if the colony will only fairly cover one comb, remove all but one comb.

2. Stores. In this provision the important thing to attend to is to see that there is an abundance. Give me a single comb as full of pollen as you can get it, and I will take enough bees to thoroughly cover it, have them store syrup over the pollen by building out the comb, and I will insure as good wintering of the colony as can be had with any other stores. As food, I should prefer granulated-sugar syrup to honey; and as I can always sell honey and buy sugar with profit to myself, I never feed honey back.

3. Ventilation. As illustration, take four colonies, like the very weak ones referred to above, there being only enough bees in each to thoroughly cover one comb, and this one full of syrup as directed above. I take a two-frame nucleus hive, make through its center a division by means of new enameled cloth, place a colony with one frame on each side of the division, covering each with two folds of strong canvas. I prepare another nucleus hive as above, but remove the bottom, placing this one on top of the other one, but with its entrance reversed. I pack them both, with their four queens and retinues, in a box with ten inches of space on every side, preparing entrances  $\frac{3}{8} \times 1$  inch, diverging toward the outside so that they will be ten inches apart. I will now carefully pack them with chaff around and above, and leave them undisturbed out of doors all winter. Of course, it must be seen to that the roofs do not leak, and a hole should be made at either end of the box just under the lid that would admit air but not rain. If the packing of these nuclei is undisturbed, the same principles can be easily extended to the larger colonies. It is not unusual to experience a temperature here of 4 to 5° below zero; hence in this latitude I am not in favor of cellar wintering; but if I were in a much colder one I should be. I winter strong colonies in the single-walled Simplicity hive, without any packing, except to replace the enameled cloth above, with a chaff cushion, having only attended well to the two first cardinal points; viz., contraction and stores. If there is but one nucleus colony

in the apiary, put it on one comb in a hive having space only for one comb; pack it in a box with ten or twelve inches of chaff all around, above and below, and it, too, can be saved. I have tried these experiments for ten years past, and I know wintering bees can thus be made successful, even when the colony is but a nucleus. I have 50 colonies in my Carniolan apiary. S. W. MORRISON, M. D.

Oxford, Pa., Dec. 7, 1885.

Friend M., the fact you mention in regard to the preservative power of honey corroborates what friend Muth says in reference to its use for pork-packing, if you will excuse the illustration.—What you say about eggs not hatching has been up once or twice before; but I believe we have no good explanation of the reason why eggs sometimes fail to hatch for quite a time, and then all at once begin to develop larvæ all right. Friend Doolittle wrote an article on a similar subject some years back.—I agree with you in regard to preparing bees for winter; but we have not been successful with two-frame nuclei, even when prepared very much in the same way in which you direct.

#### AN A B C SCHOLAR'S EXPERIENCE.

17 DAYS FROM THE EGG TO THE BEE.

I WAS but a novice in the spring. I never owned a colony of bees before, but by the information of GLEANINGS and A B C I have increased from 1 to 3 by artificial swarming. I commenced very late, on account of the weakness of the old colony, then being careful not to lessen the old stock, in my judgment, below thirty thousand, so as to have surplus honey for home use. I was reading and putting this to practice, and I found no deviation but this; you say: "Twenty-one days elapse from the egg to the bee." Well, here is my experience: I put down the date of every thing I undertook. June 24th I placed two empty racks, without foundation, in the old hive, and took them out July 13th, and young bees were coming out of their secluded spot, and moving among the busy throng while I held the racks in my hands, and there was evidence that some hatched a day, or perhaps several days, before near the top-bar of the rack, and had been replaced with eggs, so this makes but 19 days, and perhaps 17 days, from the egg to the bee, although you say there are exceptions.

Now, here is the question: I see two colonies are full below of beautiful capped honey, while the last one is full with comb, but none capped, so I gave them a rack of capped honey from another hive, and, to my surprise, I found that they uncapped every cell and removed most of the honey, and the queen laying in them. Why is this? Can they winter safely in this or not? S. R. BRINER.

North Springfield, Ohio.

Friend B., I do not know where the mistake comes in; but I am just as sure you made a mistake, as if you had told me you planted corn one day and it was up two inches high the next day. As you state it, it seems very hard to tell where the mistake came in; but these dates are so well established, by thousands of careful experiments, that I should think it more probable somebody swapped those combs without your knowledge, than that a perfectly formed bee

was hatched in the time you mention. Of course, it does not seem very likely any one would meddle with the combs in your hives; but you know it is possible. Try the experiment again, and see if I am not right. Exceedingly favorable circumstances may shorten the period perhaps 24 hours. The way to count is to mark the very hour the queen laid the eggs; and then watch when these same eggs produce perfect bees.—Bees will very frequently uncapped the honey when a frame of capped honey is put into the hive. They are more likely to do this when they have no capped honey of their own. I do not know why they do it, unless it is because they recognize it is not their own work, and they want to look in and see if it is all right. Young bees, which have not much to do, are particularly up to such tricks.

#### SOME GLEANINGS FROM GLEANINGS.

WHEAT CHAFF; CLIPPING QUEENS' WINGS; SOLAR WAX-EXTRACTORS.

IN GLEANINGS for Nov. 15, p. 766, Ernest speaks of the difference in value of oat and wheat chaff. This point, which he just brought up, is exactly the one which I have told in your and other journals. My experiments proved, many years ago, that there is little or no difference in the various kinds of chaff so far as protection from cold is concerned; but the difference is very marked as regards retaining the moisture thrown off by the bees. I find the different kinds of chaff are valuable for this quality of not retaining moisture, in the following order: Timothy, wheat, oats, and buckwheat chaff.

TWO QUEENS, NOT RELATED, IN ONE HIVE.

On the same page Mr. Broers, in speaking about two queens in a hive, takes it for granted that they are both the original queens that were hived with the swarm in April. As no observations were made in this case between April and October it is more than probable, in my opinion, that both of these queens were not the same ones seen in April, but that one of the queens seen last was a young queen raised late in the season, to supersede the other. The fact that the queen being superseded was less than a year old, and a perfect one, is no reason why the bees might not be superseding her, as they occasionally act on just such foolish notions as that would be.

DISTURBING HIVES AFTER A QUEEN HAS JUST BEEN INTRODUCED.

I see, on p. 770, that even as accurate an observer as our friend Hayhurst usually is, he makes the old statement about the danger to a lately introduced queen in opening the hive before she has got to laying. I have never yet known of having lost a queen under these circumstances, although it has been my general practice for years to open hives the first opportunity I have after introducing my queens, and I have certainly opened scores of them before the queens commenced to lay. I presume, however, that the manner of opening the hive has something to do with it. I certainly shouldn't open them, if the frames were stuck so they would have to be pried apart with a chisel, nor if robbers were about.

CLIPPING WINGS—HOW.

I also see, on p. 773, that friend Doolittle still ad-



vises catching the queen with the fingers while clipping her wings. I have clipped the wings of certainly more than a thousand queens with scissors, and have clipped off just one leg of a queen while doing so, and I have no fears of such a "happencence" occurring again. I couldn't see in that case that the loss of a leg caused the queen to become less valuable; but even the accidental clipping-off of a leg is not advised. It is now years since I abandoned the method of holding queens with the fingers while clipping their wings, and I think that no one who gives tweezers a fair trial will ever return to finger-catching. I use, for that purpose, a pair of sharp-pointed tweezers, such as jewelers use, with which I catch and hold the queen by a wing while clipping. You keep the right kind of tweezers for this work on your ten-cent counter; but only the ones with sharp points are suitable for this work. I have described this way of using tweezers before; but if Mr. Doolittle has overlooked it, many others must have done so too.

#### SOLAR WAX-EXTRACTORS.

On p. 775 friend Israel, of California, describes his solar wax-extractor, which is on the same principle, but not so good, as the one I described nearly three years ago in GLEANINGS. That old sacking he speaks of laying in the bottom of the extractor, and which seems to be such a favorite idea with many, is not only absolutely unnecessary, but would almost ruin the efficiency of the instrument in the latitude of our Northern States. It will work better, of course, in California, or any of the Southern States; but even there it is more damage than good. In our Northern States we have to utilize all the heat from the sun's rays we can, and we can not afford to let old sacking or any other unnecessary article absorb any of the heat. The object for which the sacking is used is arrived at by dipping off the melted wax, as described in the original article referred to (page 521, 1883).

Another mistake made by friend Israel, I think, is in allowing the wax to remain in the dish, or receiving-pan, for several days, instead of removing each day. Wax becomes perfectly clarified in a single day, and any further exposure of it to the sun simply results in hardening and bleaching the wax. I have used these solar wax-extractors about ten years, and am foolish enough to think I know something about them. I was in hopes, when I wrote my first description of them, that they would be materially improved by some one; but so far, all published experiments seem to be in line with the one we have just criticised. What is wanted, in the latitude of Northern Iowa, at least, is some device for increasing the power of the sun's rays, and not something that will absorb some of those rays. I wish, friend Root, that whenever a description of some straining device is sent in, you would call attention, in your foot-notes, to the fact that, while such devices are practically unnecessary anywhere, they are a positive damage in the latitude of our Northern States.

#### WHERE IS HAWK'S PARK?

Quite a number of bee-keepers have asked me, both verbally and by letter, "Where is Hawk's Park?" "How far from New Smyrna?" Hawk's Park is a newly established postoffice about three miles south of New Smyrna, in Volusia Co. Nearly or quite all the bee-keepers in this section used to get their mail at New Smyrna, but about a half of

them have changed their mail to the new office. Messrs. Sheldon, Detweiler, Dr. Goodwin, Lewis, and others, are at New Smyrna, while Hart, Hardee, Oleson, Mitchell, Packwood and others are nearer Hawk's Park. Both places are on the shores of the Hillsboro River, or lagoon, a sheet of tidal water, and about two miles in a direct line from the ocean-beach. Steamers come into the river from the ocean at the inlet, some seven miles north of this place.

O. O. POPPLETON.

Hawk's Park, Fla., Dec. 7, 1885.

Many thanks, my good friend P., for your kind suggestions and criticisms. No doubt we have overlooked the facts you gave us in your former valuable paper, but we will now try to "make a note of it," so it will not slip our memory so easily. We shall proceed at once to make experiments in regard to solar wax-extractors.

#### ALMOST BURIED ALIVE.

A STORY WITH A MORAL TO IT; LAYING TILE.

I AM feeling tolerably stiff and sore this evening, but will give you an item of interest. I am now laying a 10-inch tile from the north-west corner of my 8½-ft. cellar that is dug in a dry bank of sand. We found evidence that the blue-grass sod and hard streak of clay at the top had not wet through this summer or fall. The dirt, or sand, after it got two or three feet from the top of the ground, was as dry as it would be were it under a good roof, for nearly a rod from the house, then it got damp, when it made a "cave" on me. I was down on the tile that was laid, on my hands and knees, when it struck me without warning. We were nine feet deep. I tell you, I thought I was going to be buried alive; for as the weight of the sand increased, it moved me flat down on the tile that was under me; and when I did move a muscle it took up every particle of vacancy, so I soon thought I was in a tight place. Thanks to an active, energetic Irishman, a hand that was helping me, who was raised in the old country, and who knew how to shovel the few cart-loads of sand that struck me, I was got out before the rest of the bank fell in to about 6 feet deep. I say I was got out, for no one knows how a strong or tolerably strong man's strength is taken out of him till he is crushed under a few tons of bank sand.

I write this, as it has its own moral, though some may think it of no use to bee-keepers; but all do not work with bees only, who keep bees; some are farmers, as I am, who was raised on a farm, and have to do such work as his hands are not used to doing or can not do. We found the black ants 6 feet in the sand, where frost will never reach them, in great numbers. Where they had burrowed it looked like a very comfortable place for them to winter, so they could eat honey next summer. They ate lots of it, I guess, last summer, but they rather prefer the sugar-barrel, I think, to honey. I will close by saying we have over 100 feet of tile laid 9 feet at the house, running to 7 feet where we are now. I think we shall get in 200 feet. You would hardly think one man could throw out such a large pile of sand and dirt in three days. I have helped some to-day, but was bothered a good deal to have the tile carried to me and handed down

(ditch 2 to 4 feet at top, and where it caved in it was some two rods).

J. D. ADAMS.

Nira, Ia., Nov. 25, 1885.

Friend A., I should suppose, from the size of your tile, and the depth you were working, that you intended it for a sub-earth ventilator. My experience has been, that such sandy soils as you describe seldom need tiling at all, unless there are springs. I hope your experience may be a warning to our readers when digging in the ground at such a depth as you mention. In our clay soil there would have been no trouble. I hardly need say, that great numbers of good people have lost their lives in a manner similar to the one you describe.

### SOME QUERIES FROM AN A B C SCHOLAR.

DOUBLING UP, ETC.

**E**RNEST R. ROOT:—I am so pleased that you have begun a series of articles, "Our Own Apiary," in GLEANINGS, that I am going to sit down and tell you so. I am just an A B C pupil in bee-keeping. I began with one swarm late last year. There is so much I want to learn, I am often puzzled to know the best way of managing my bees, and I think I wish I knew just how they would do in Mr. Root's apiary; for though I read most of the articles in GLEANINGS from different writers, it some way seems to me that Mr. Root's way is usually the most easily understood, the simplest, and most practical. And now your articles are going to be a help to me.

In your first article you say, "Doubling up has already commenced." Now, undoubtedly, that is perfectly understood by apiarists who know their business; but, will not Ernest, or some one else, through GLEANINGS, be kind enough to explain, for the benefit of myself and others just beginning, just how that is done—every little item precisely? Suppose you have two small swarms of cross hybrids in Simplicity hives, and you wish to unite them into a chaff hive for winter; what is the first thing—smoker, bee-hat, or neither? You can not get all the frames into the new hive. Do you alternate a part of them, and brush the bees from the remaining combs in front of the hive? Do you hunt out one queen and kill her, or let the bees do that? Would you set the chaff hive where one of the old ones stood, or in a new place? Very simple questions, no doubt, to one who has worked for years among bees, but not so much so to one who knows but little about them. Also please tell me, how do you know when a colony has stores enough for winter? How do you know when they have 25 lbs.? Guess at it? You surely do not take the trouble to brush the bees from every comb and weigh it, do you? Do snails do any harm to bees? After a swarm has filled the brood-combs, and you have put on one layer of sections, and they have nearly filled them, is it better to add more sections above the first, or remove the first and place new ones with foundation starters in their place? How do you get your extra frames of honey that you save in case the bees need them? Do you use a Simplicity hive on top of a chaff hive, and put brood-combs in these? When you want to form a nucleus, how far from the old hive must you place the

new one? Which is better for packing—wheat or oat chaff? My husband says he thinks the wheat chaff would keep dryer, but it seems to me the oat chaff would be warmer.

I use the Falcon chaff hive, which is made at Falconer's, seven miles from here. It is packed with fine shavings, and so are the chaff cushions. Do you think shavings would be as warm as chaff?

I have not as yet made my bees very profitable. Increased from one to two last year, and wintered nicely. This season they increased from two to six, and took up about 70 lbs. of beautiful section honey. I am learning all the time, and I think I can manage them much better next year.

I am going to try Mr. Heddon's plan, and Mr. Doolittle's, for preventing after-swarms. I think either one will work nicely.

My only bit of bad luck with my bees so far is the loss, just before basswood-bloom, of my best swarm, and a tested queen I sent to you for. And, by the way, she was such a nice queen, and came through in splendid condition. Some four days before, I had taken three frames of bees and brood and put in a new hive. I put the queen on a frame of honey-comb in the cage, and hung it in the hive. In less than half an hour they had worked the comb away and let her out. In four weeks' time—perhaps two or three days over—they had filled 7 brood-frames and nearly the side sections, then sent out a nice swarm, and left a fair quantity of bees in the hive. I hived them and they seemed contented, and went to work. They stayed that day and the forenoon of the next; but toward night, when I went out to look at them, behold, they were missing. The weather was very warm, and the hive not shaded. That was probably the reason why they left—rather an expensive lesson, and I was so sorry to lose my nice queen! Perhaps if I had known just how, I might have clipped her wings at first; but it seems almost cruel to cripple the pretty creatures.

Notwithstanding directions for managing are plain in the A B C book, I often wish they were more explicit in little things which I suppose tact and common sense ought to teach me. Perhaps I am unusually dull; but I often think, "If I could only ask Mr. Root a few questions!"

I am much pleased with GLEANINGS, and like it much better because it is not wholly devoted to bees. My children enjoy the Juvenile department, and I read the children's sermons to them. The Home sermons are also read, and I feel thankful that at least one man is trying to prove to the world that religion is our daily life—not that I wish to be understood that there are not many more than one, but the ranks ought to be much fuller, both of men and women, who realize that, every day, home and business life should be our religious life.

I always read Mrs. Chaddock's letters. There is much lively human nature in them, and they demonstrate to me that other farmers' wives in the land are busy, and trying to make the best of surrounding circumstances, as well as myself.

I also feel that I should like to thank Mrs. Culp for her letters, teaching us Christian charity, love, and trust.

Count on me as a subscriber as long as my bees make money enough to pay the subscription price.

Fluvanna, N. Y.

SARAH M. BENTLY.

"Doubling up" is only another name for



uniting. The A B C under this head, page 271, gives the precise method of doubling up, or uniting, that we used in the apiary this fall. As to the rest of your questions, I will leave it to father, for it takes an old head to answer questions, though of themselves seemingly simple. ERNEST.

Many thanks, my good friend, for your kind words. I am glad, also, to know that you like the A B C book because it is so very plain, and goes into minute details so much. Some have objected to it on this account; but it seems you want still further details.—In regard to the use of smoker and bee-hat, use them if you find them a convenience, and I presume you will get along better with both, from what you say. In uniting, take the frames with the most brood and stores; and if there are still more containing honey, and the weather is warm, you can put these additional ones in the upper story. I do not think it matters very much whether you alternate a frame, or simply place the two colonies side by side. The most important thing is to be sure the bees do not get to quarreling; and if they do, you must make them behave by using smoke freely until they do behave. You can kill the poorest queen yourself; or if there is no difference, and you have no choice, let the bees do it.—I would set the chaff hive where the strongest of the old ones stood, and take the other hive entirely away, so the bees will not go into it and die when they fly again.—An old bee-keeper will tell by looking the colony over, and lifting the hive, whether they have stores enough; but until you have learned by experience, I think it an excellent plan to weigh them. You can weigh the combs one at a time with a pair of ten-cent spring balances, or you can weigh the whole hive, subtracting the weight of the empty hive and combs. You need not brush the bees away from the combs in order to weigh it. They weigh so little they need not be counted.—Neither snails nor hardly any thing else will harm the bees if the colony is a strong one.—We give the preference to the wheat packing, for the reasons you mention. Fine shavings, prepared just right, will probably answer nearly or quite as well; but all things considered, we have preferred the chaff. Had you given your new swarm a frame of brood, as we so emphatically advise in the A B C, I think you would not have lost them.—We do not practice clipping queens' wings now.

#### AN INTERESTING LETTER FROM AN A B C SCHOLAR.

QUEEN-CELLS BUILT IN A HIVE WITH A LAYING QUEEN.

**W**ILL you listen to an A B C scholar a short time while he reports his experience with bees? In the spring of 1881 my father had two swarms of hybrids in L. hives. I became interested in them, and sent for an A B C book. I increased them to five colonies, but they were so cross I concluded that I must have Italians. I sent to you for five "dollar" queens. They came all right in Peet cages. I caged the old queens and fastened the new ones on the combs, as

directed. The next day I looked them over, and found that they were all out, but I found something else which almost made me feel weak—every swarm had started queen-cells. Well, thought I, they are all dead; just my luck, exactly. I am glad I saved the old queens. I can put them back. There is some consolation in that. I put one of the queens among the bees, when one of them grabbed her by the wing and tried to sting. I caged her immediately, closed the hive, and sat down, completely "stumped." I didn't know what to do. Perhaps you can imagine how I felt. I can't describe it. I saw bees and queens all that night. The next day I thought I would try to give to another hive the old queen. I opened the hive, lifted out a frame, and right on the center was the new queen. She seemed, to my astonished eyes, to be about four times as large as the one I had introduced. She had commenced laying. I went to the other hives, and found the same condition of things. I looked in the A B C book, but I failed to find any mention of bees starting cells with a queen in the hive. On page 192 I found it said, that "it is a sure indication of queenlessness to find a nucleus building queen-cells." Well, thought I, this is not a nucleus; perhaps that makes the difference. All the queens proved to be purely mated and very prolific.

I have worked away from home since then until this summer, when, being at home again, and finding three swarms alive (one, by the way, contains one of those dollar queens, as lively and prolific as ever), and having lost none of my interest in bees I thought I would raise some queens and make nuclei of the old dollar queen's swarm, and build them up and so get more bees and experience. I have the experience; and unless I have some more unexpected trouble I think I shall get the bees. I followed the directions, and a couple of days before the cells were to hatch I divided up the old swarm, putting two frames of brood, covered with bees, into each nucleus. The next day I found that they had all started queen-cells, and concluded that the old queen must have got lost in some way. I inserted cells in each, and they waxed them all in; but they did not hatch. In five or six days they all had cells of their own building capped over, except one, and that one contained eggs and larvae, so the old queen was all right after all. The only reason I can suggest for the cells not hatching is, that the next two nights after I inserted them were frosty, and they might have been chilled. Now, here are some questions: Why did the nucleus containing the old queen start cells, and why did they accept the cell I gave them, and wax it in nicely? Is the rule I have quoted from the A B C book incorrect, or do my bees act differently from every one's else?

#### A LITTLE STORY WITH A MORAL TO IT.

I am taking GLEANINGS, with one of my neighbors. I think it is "splendid," as the girls say. The criticisms from some of the friends make me think of what I saw in a village last spring. A man was fixing the sidewalk in front of his house. In a short time there were several men around him, telling him how to do it. He kept right on, and fixed it to suit himself. I guess that is the best way.

Rockwell's Mills, N. Y. ELMER D. CORNELL.

Friend C., it is very singular indeed that all five of your colonies built queen-cells while they had a queen, although it is not very unusual for a colony to persist in building queen-cells when a new queen has just

been given them, indicating that *all* the members of the commonwealth are not quite satisfied to accept her. It is a pretty hard matter to have the A B C book touch all these minor points.—I do not think that frosty nights would injure a queen - cell if put right into the brood-nest, especially if the cluster of bees were enough to make a tolerable colony or nucleus.—The conditions of your little story are not quite like those of a bee - journal, friend C. The sidewalk belonged entirely to the man. He was not building it for his neighbors who were making suggestions. But a journal belongs to the people; in fact, it is made for them, and they have a right to suggest how it should be made. I am glad to say, however, that the general decision of the people seems to be just in accordance with my own; that is, by far the greater number of friends seem to prefer to have GLEANINGS with a variety, and, I believe, such a variety as I have given. That those who subscribe may not be disappointed, we have changed the front page of our journal so as to read, "Devoted to Bees, Honey, and Home Interests," so as to say we are not getting away from our text, even if we do touch on other industries as they come before the people.

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## THE FIRM OF JANE MEEK & BROTHER.

### A Serial Story in Ten Chapters.

BY REV. W. D. RALSTON.

#### CHAPTER I.

##### INTRODUCTION.

IT was a lovely day, late in autumn. The Rev. John Meek had been in his study all the morning, busy at work on his sermons for the coming Sabbath. Looking out on that beautiful Indian-summer day he felt that a walk would do him good; and, picking up his hat and cane, he started forth to take one.

As he stepped through his gate into the highway he noticed some object up the road which he at first thought was a team approaching; but on looking more intently he saw it was not a team, but his two children running toward him at the top of their speed. His wife, noticing him earnestly gazing up the road, came to the gate to see what was the matter; and after a look at the children she exclaimed, "That is our Jane and Tommy. I sent them on an errand to Mr. Brown's. What can be wrong, that they are running so?"

By this time both children were crying out something to their parents; but the children were so short of breath from running, and so eager to tell the tale, that the parents could not understand them. However, they managed to catch the words, "Mr. Brown — bees — keg — killed — home!"

Mrs. Meek remarked, "I fear Mr. Brown's bees have stung him to death."

Her husband replied, "I hope not, but we shall soon learn."

By this time the children had arrived, and began to tell their story, both at once; but Tommy was told to stop and let his sister tell it. It was all about a colony of bees which Mr. Brown had offered them

as a present. Mr. Brown was a friend and neighbor, living on a large farm not far from Mr. Meek's house. Although he kept a few bees he made no claim to understanding bee culture. His bees received very little care or attention from him. His hives stood in a row upon a bench in his orchard, and were merely rough boxes, some of which he made himself, while he picked up others around the village stores. He obtained his surplus by boring holes in the tops of his hives, and placing on these some smaller boxes. At the approach of winter, if any colony had not sufficient stores the bees in it were killed and the honey taken. Mr. Brown had been examining his bees that morning, to see what stores they had. He found all well supplied but one, which came off very late, and which, for want of a suitable box, he had placed in an old nail-keg. This one he decided to destroy, and was preparing to do so when the children arrived. His children explained to their little friends what their father was doing, and urged them to wait and have some of the honey. The kind-hearted Jane's eyes filled with tears as she thought of the poor little bees in the old keg, peaceful and happy, clustered as usual on their combs, but soon to meet a horrible death.

Mr. Brown's plan of killing bees was to smother them to death with the fumes of burning brimstone. As she watched Mr. Brown digging the brimstone-pit she ventured to say to him, "I hate to think of your killing the bees."

He replied, "I hate to kill them; but they haven't sufficient honey to support them through the winter. They will eat up what they have, and then die of starvation; and surely it is better to kill them now, and obtain some honey, than to let them starve and obtain nothing. I kill them to keep them from dying of starvation."

Jane asked if they could not be fed, and their lives preserved until spring.

Mr. Brown replied, "I believe some people do feed bees, but I do not know how it is done; besides, I have so many horses, cows, and pigs to feed that I can find no time to feed bees. But," said he, "I'll give you and Tommy this nail-keg hive, bees and all, as a present, if you will take them home, feed them up, and preserve their lives. Your father knows something about bees, because I have heard him talk about them, and he can tell you how to feed them."

Jane replied, "I would willingly take the bees, but I shall have to ask papa and mamma about it first."

"Very well," said Mr. Brown; "you run home and ask them, and I will not kill the bees until I hear from you."

The children certainly did "run" home, and, having related the facts in the ease, stood waiting for the important question, as to whether the gift should be accepted or not, to be decided.

Mrs. Meek laughed heartily, saying, "Is that all? Your pa and I thought, from the way you ran, that something dreadful had happened; and now you say your reason for running was to obtain leave from us to keep bees. Children, I am sure you do not know what you ask. If you knew how bees sting, and how it hurts to be stung, I am sure you would not ask to keep them. I think you had better let Mr. Brown keep them."

"But, ma," said Tommy, "Mr. Brown will kill them. He said he would kill them unless we took them."



"Now, ma, think about the poor little bees being smothered to death with brimstone," chimed in Jane. Then, turning to her father, she said, coaxingly, "Please, pa, may we not keep them? Mr. Brown said we could have them, and welcome, and that you could tell Tommy and me how to take care of them."

Mr. Meek replied, "I was starting to take a walk, and the day is so fine I do not want to miss it. As I walk along I will think the matter over, and I will meet you at the dinner-table, when we will talk it over." With that he walked away.

While Mr. Meek studied his Bible and his books on theology very faithfully, he also studied about many other things. He had read several works on the management of bees. His father kept bees after the old plan, and when a boy he had become familiar with its workings. He thought it cruel to kill the bees in a hive to obtain their stores. In his travels since entering the ministry he had visited many modern bee-keepers, and noticed with gladness the advances which had been made. All the bees near where he now lived were kept upon the old plan. He had often talked to Mr. Brown and others about trying the modern improvements; but they had never been persuaded to try them. He often thought of buying a colony and showing the people around what modern bee-keeping is, in hopes that they might be led by his success to adopt some of the improvements. He knew that the country afforded plenty of bee-pasture. White clover, that best of all honey-plants, abounded along the roadsides and in all the pasture-fields and meadows. He was certain that many thousands of pounds of honey were wasted every year, near his home, for lack of bees to gather it. He also believed it would benefit the children, to have the care of bees. He said to himself, "They will learn something, even if this colony does not live until spring."

His conclusion was, that the children might accept the offered gift. He understood very well why tender-hearted Jane pitied the bees in the doomed hive. When a boy, he himself had often shed tears over the unhappy fate of similar colonies when he saw them placed in the brimstone-pit. As Jane was only ten years old, and Tommy eight, they knew very little about any kind of work, and nothing at all about working with bees. They would need much counsel and help, which he was willing to give, provided they did their part cheerfully.

As they sat at the dinner-table the children were very impatient to learn the decision; but having been well taught they waited for their parents to introduce the subject. At length their father remarked, "I think Mr. Brown's offer a very good one, and we had better accept it."

Jane said, "Oh! thank you, papa; thank you, papa!" But Tommy dropped his piece of bread and butter, and, clapping his hands together, said, "Good! good! good!"

It was always his custom, when much pleased, to dance around on one foot, clapping his hands together, exclaiming, "Good! good!" but as he was now sitting at the table he could not very well indulge in the dance on one foot.

Mr. Meek continued, "I allow you to accept the offer, for various reasons. One is, pity for the poor little bees doomed to die. They are now under the sentence of death, and will be killed unless we take them and save them. Another is, that you children may learn how to keep bees. The art of bee-keep-

ing is a trade. If the bees live, and you care for them, you will learn this trade; and the knowledge you will thus acquire may be very useful to you in after-life. Another reason is this: I should like to set before our neighbors and friends the example of a well-kept bee-yard. I am sure that many colonies of bees might be kept in our vicinity; and I think if I could show the people how to keep them profitably, I might advance bee culture in this neighborhood. And now, Jane and Tommy, I want you to remember that Mr. Brown gave the bees to you. You are the owners of them; you are the bee-keepers, and you must do the work. I will direct you what to do, and will help you do what I think too hard or too difficult for you. You must, in return for my services, furnish us some of your honey for our table."

We can not record all the conversation which lasted through the meal, and was continued after they had left the table. They then went out into the yard, selected a spot where the hive should be placed, and prepared a stand on which to place it. Then the question arose, how best to remove it. Mr. Meek's advice was asked. He said, "There is in our barn a large sack. It will hold a nail-keg nicely. Take it, put the keg into it, then tie it securely. Take the buggy, place the keg in the buggy, and drive carefully home, and not a bee can escape to trouble you. When you place the keg in the buggy, be sure to turn it bottom up, and then the combs will not be so likely to break."

Thus equipped the children drove away about sundown, and a little after dark a shout at the front gate announced that they had returned with their precious load. Mr. Meek went out, and carried in the hive. He thought it best not to open the sack nor place it on the stand until all the bees had crawled back into the hive. He placed it in a position favorable for their doing so; and in the morning, all being quiet in the hive, the keg was gently drawn from the sack, and placed upon the stand. Mr. Meek pronounced it light in stores, the combs not filling more than half the keg.

"They must be fed," said he; and as it was now late in the season, no time was to be lost. The children prepared feed after directions given by their father. They possessed a dollar, which they expended for granulated sugar. They then made this into a thick nice syrup by adding some water, and heating it. A tin pan was borrowed from their mother, filled with this feed, a little warm, and the surface of the syrup was covered with little strips of pine, split from the kindling-wood, to keep the bees from drowning in it. Jane then stood behind the hive and gently tipped it back, while Tommy slipped the pan of feed upon the bottom-board; the hive being then let down he covered it and kept out robber-bees.

In the evening the children took the horse-blankets and the buffalo-robe and covered the hive, completely protecting it from the cold, and enabling them to take up the feed. The feed was always warm when placed in the hive; and being thus protected it was all taken by morning. They were thus fed repeatedly. When the dollar's worth of sugar had been fed, Mr. Meek said, "They surely will do until spring, when they can be fed some more if they need it. Now," says he, "they can remain here until the severe weather comes, when we must place them in their winter quarters."

*To be continued Feb. 1st.*

## C. C. MILLER'S REPORT.

## TEMPERATURE OF CELLARS AND OF THE EARTH.

**A**S Mr. Root (p. 812) inquires how I succeeded in carting my bees around, and about the honey and money I made, I will try to answer in full. First as to the success of carting around, I consider it a matter of necessity, and would not think of keeping all my bees in one apiary; and as I winter in cellar I am obliged to haul home the bees every fall and take them away in the spring. This I have done for six years, but I never hauled them away at any other time, except in the summer of 1880, when I took them three miles to the edge of a large buckwheat field. I think they did enough better than those left at home to pay for the hauling.

Now as to the result of the year. I'm not proud of it. I don't glow with pride as I contemplate it. Never a glow. Nov. 5 to 12, 1884, I put my bees in the cellars, 300 colonies. March 23, 1885, I began taking them out, and took out the last April 13, making a confinement of 126 to 159 days. By the time fruit-trees were in bloom I had 179 colonies left, a loss of about 40 per cent. I increased these to 340 colonies, and took about 1700 lbs. of comb honey, making  $9\frac{1}{2}$  lbs. per colony, and 90 per cent increase. I might theorize and philosophize as to why 40 per cent should have been lost in wintering and springing, but I will try to limit myself mainly to what I know. There were some plain cases of starving—not a drop of honey left in the hive. The winter was very cold—37° below zero at one time, and the cellars were allowed to become quite cold. In one of them the mercury reached one degree below the freezing-point. I will allow myself to theorize far enough to say, that a smaller number in each cellar would have done better—at any rate, they wintered better in former years when not so crowded. I can not tell just how many were alive last spring when taken out, but I think the heaviest loss occurred after taking out. Some dwindled, and some swarmed out. Some of the latter seemed pretty fair colonies, and the deserted hives showed plenty of honey left, and also of brood—perhaps more brood than the bees could cover.

Mine is not a good honey region, white clover being about my only dependence for surplus. Last summer the clover bloom was more abundant than I ever knew it, but for some reason the honey was not forthcoming. When the flow of honey was over, many colonies had scarcely any honey, and one actually starved to death—a thing I never experienced at that season of the year before. I ought to have mentioned, that a great many colonies were very slow about building up in the spring and summer. Soon after the failure of clover I began to feed syrup of granulated sugar, and in all I fed about 1700 lbs., to make them ready for winter.

## TEMPERATURE OF CELLAR.

I read your remarks, Bro. Root, on p. 830, with some surprise. You say, replying to J. F. Redd, "Your cellar will very likely run from 58° to 60° in spite of any thing you can do," etc. Is it possible there is so much difference between your place and this, in latitude 42°? I am not sure that I ever knew the thermometer in my cellar to run up to 60° when there were bees in it. I happen to have before me the record of the winter of 1876-7, in which the thermometer ranged as high, or higher, than

the average. Dec. 10 it was 35°, and was no higher than 41° till Jan. 29, when it reached 42°, going no higher than 46° till April 1, when it stood at 49°, the highest point it reached during the bees' confinement. So you see in this region there seems little difficulty in keeping below 58° or 60°, and I do not now so much wonder that you prefer outdoor wintering in your locality. I think it is pretty well agreed, that, for best results, a cellar should be kept at about 45°; and the testimony agrees so generally on this point that I suppose for the majority of persons and places it is correct; but I have never succeeded in keeping my cellar to average more than 40°, if that. Indeed, it has taken a good deal of artificial heat to keep it up anywhere near that point. I am not sure whether 5° warmer would be any better; for in the winter already mentioned, 127 colonies were put in, in the fall, and 127 taken out in good condition in the spring; still, three were lost in springing—whether from queenlessness or otherwise, I can not now say. Probably the best plan is for each one who winters in a cellar to note carefully at what temperature his bees are quietest, and be governed accordingly. Is not a cellar with sub-ventilation warmer than one without? The air as it enters my cellar through the sub-ventilating-pipe has been no lower than 43° this winter, although the cellar has been as low as 36°, and outdoors 14° below zero. Later in the winter, the air from the pipe has, other winters, gone as low as 36°.

Since writing the above I have received GLEANINGS for Dec. 15, and read with very great interest the talks about temperature by Bro. Doolittle, Ernest, and yourself. Why should there not be a great difference in temperature between the north and south? After all, the practical questions come, What is the best temperature to keep a cellar? Should it gradually become warmer toward spring? What are the best means to secure the desired temperature? What is the best depth, all things considered, to run a ventilating-pipe? For, Bro. Root, although you prefer outdoor wintering, for many of us in other localities the cellar is the safer place, and answers to the above and kindred questions will be read by us with the keenest interest. If you will try your hand at it, and get others to do so, you will merit, and no doubt get, many thanks.

C. C. MILLER, 179-340.

Marengo, Ill., Dec. 21, 1885.

Friend M., we are very sorry to hear that you have had so poor a season; but before deciding that your locality is not a good one, I would consider the enormous yields you have made two or three seasons in succession, even though you had so large a number of bees in one locality. Would it not be better to take a little of the advice Doolittle gives in the present number, and get larger yields from fewer colonies, or else have them scattered more in different localities? The dwindling and swarming out in the spring seems to be a sort of mania, as we have many times mentioned, when things get to going wrong. We have had, in our locality, bees starve to death in June and July. After such experiences they seem to be always slow in building up.—In regard to my reply to friend Redd, I meant that during a warm night in the middle of the winter (such as we are having now this 24th day of December, and there has been no freezing night or day for three days, and one night was almost as



warm as any night in June) the bees would sometimes raise the temperature of the cellar to 58 or 60°. I put this temperature from memory, as I don't know that I made a record; but had you been at the recent convention at Detroit you would have heard about cellars going up to even 90°, and that in Canada. To my great astonishment, the friend who gave this temperature is one of our most successful men in wintering his bees. When questioned, he admitted that the bees came out of their hives and clustered against and all over them, and all between them. But he said they went back all right when the temperature lowered. I have seen just such a state of affairs, but it resulted in the loss of several valuable queens. My experience in wintering in cellar, as a rule, gave about the temperature you mention. You have given us some very important facts in regard to sub-earth ventilation; namely, when the temperature is 14° below zero outside, your sub-earth tube delivered air in the cellar at a temperature not lower than 43°. I do not see why there should be a difference in the temperature of the earth north and south, if we get down deep enough to be beyond the influence of winter or summer—say eight feet deep, or may be a little more. And, by the way, friend M., will you please tell us how low down your sub-earth pipe is laid, and how large it is in diameter? In regard to the best temperature of a cellar, the different temperatures mentioned at the convention preferred by different individuals varied so greatly that it leaves one quite at sea. In the A B C book we have put it at 40°; but we mention there that some of the bee-keepers of York State prefer it as high as 50°. Now, very likely half way between the two, or 45°, will come as near it as we shall be able to agree on.

#### HOW TO USE THE SOLAR WAX-EXTRACTOR.

##### THE TEMPERATURE OF CALIFORNIA AS COMPARED WITH THE EASTERN STATES.

ON page 775, in a foot-note to my report you say, "I do not quite understand what you say about extracting honey as well as wax," referring to the solar wax-extractor. I have a case that will explain the operation very clearly. After we had done taking off our honey in August, I was requested by a friend who is in ill health to come down and take off his honey for him. He lives some fifteen miles nearer town than we do. Myself and nephew went down, never doubting but that we could take off the honey from the hundred hives, and house it, in one day. Imagine our consternation when we found there never had been any boxes put in the top stories, and that the bees had built just according to their "own sweet will." Well, we had to cut the honey out of the top stories of that whole hundred hives. We did that in two days, and stowed it away in barrels and five-gallon cans, in the honey-house. Now, you can't sell mass honey here at *any* price, so the only thing to be done was to get all this broken and mashed-up comb into extracted honey. I will here give you the *modus operandi*, remarking, by the way, that a great deal

of the extracted honey produced in this county, and country too, is produced in just this way.

##### A SOLAR WAX-EXTRACTOR—HOW CONSTRUCTED.

A solar extractor is made exactly as you would make a trough out of two boards. This, you see, would produce two angles of reflection. But I made a half-octagon, so you see I have two angles of reflection *on each side*. Now you are ready for your tin lining. This must be all fitted neatly to the box, and well soldered together. Then put in your spout. If you intend to use this spout out of doors it must be of leather or rubber, so you can stick it into the honey-can and wrap a cloth around it, or you may get more bees than honey. Now make a light strong frame, to fit just half way down in your solar extractor. Cover it with wire cloth, well tacked on. Lay on this a piece of clean sacking, for a strainer. Now pile in your honey, keeping it as much in the middle as possible. The reason for this is, that you want the sides clear, to act as reflectors. Put on your sash and stop up your pipe. Of course, no bees must get into this honey, or they will never get out alive. The action of this sun extractor is thus:

The honey and comb both run through the cloth and wire screen into the lower part of the extractor. The honey sinks below, while the wax floats on top of it. The wax gets hard much sooner than the honey gets cold. You can therefore draw off the honey while it is warm, as it will run much easier and cleaner from the extractor. In the evening, when the bees are all in their "little beds," you can take off the sash and lift out the wax in great chunks that would "knock an ox down."

What do I melt small cakes of wax for? Well, I had that ton of honey at the end of the season, that the bees would not seal up. In each box of sections there would be one section at the end whose outside was not sealed up. It was unsalable. I therefore cut that cake out and left the box whole, so that it would pack right in the case. I made these cakes into extracted honey.

It is *not* a fact, that the heat of the sun is much greater here in our climate than it is in the States. In fact, it is not, to use a common saying, "half as hot." I have known *nights*, both in Pennsylvania and Ohio, that I think would have come pretty near to melting beeswax; nights when the denizens of great cities had to crowd out of doors to get even a breath of free air. The thermometer here generally ranges from 50 to 70° in the winter, and from 70 to 85° in the summer. It rarely gets up to 90°. *This* summer it was exceedingly hot — got to 90 several times. People thought they were burned up — entirely consumed. To-day I am melting beeswax, with the thermometer 70° in the shade. It is running in a swift stream about the thickness of a very thick darning-needle.

It is very singular to me that you can not melt beeswax there, with a temperature of from 85 to 105°, as you have it in the summer. Very singular, too, that you have to make shade for your hives, to keep the honey from melting down, and yet can not melt wax under glass, with a bright tin bottom and sides as reflectors. We don't have to shade our hives here. There is not one hive shaded in ten thousand, in this county. They are all  $\frac{3}{4}$  lumber at that. This speaks as loud as the thermometer, does it not? If you make your solar extractor right, and *can't* melt beeswax in it, it must be — climate. Ah! there we have got you. The only climate worth

talking about is here. No other climate on the broad globe will melt beeswax with the thermometer at 70°. I am so glad! This—is this happiness.

—Italy.

With all her sunshine and her wealth of flowers,  
Can never be thy equal. O'er her lowers  
Malaria's gaunt and naked form. The sea  
That sweeps her shores is not like this of ours.  
She is not, then, thy peer, nor e'er can be,  
O thou unclouded land along the sea!

J. P. ISRAEL.

San Dieguito, San Diego Co., Cal., Dec., 1885.

Friend Israel, I beg pardon, and own up, but some way I had got the idea into my head that your summers are much hotter than ours.—See what friend Poppleton has got to say about solar wax-extractors, on page 16. Truly there is a great deal to learn in regard to solar wax-extractors and some other things. That reminds me of what somebody said when Horace Greeley wrote his book, "What I Know about Farming." They said it would take a great deal larger book to hold what Horace Greeley did not know about farming.

## HEADS OF GRAIN

FROM DIFFERENT FIELDS.

KANSAS CHIPS; KIND WORDS FOR GLEANINGS.

**L**AST spring I purchased three colonies of Italian bees (this being my first experience in the business); and during the spring and summer they were very "good natured," and we got along very pleasantly; but after the honey season commenced in July they became very cross, and, like Josh Billings' mule, "seemed to take especial pride in exhibiting the part where their strength lay." I suffered myself to be stung for awhile; but it finally got old, and I donned the veil and gloves, then I had them; and unless their disposition changes, or confidence in myself increases, I think I will keep on the safe side in the future. But I hope that, with Prof. Cook's Manual, and GLEANINGS, as counsel, and the veil and gloves for protection, I shall be able to succeed.

Apiculture is an experiment in this Western country at present; but I think, by raising sweet clover, alsike, and buckwheat, we may be able to make it profitable, to some extent at least.

I now have seven colonies—four new, and the three old ones. They are well stored for winter; but the new ones, being rather late, are not as strong as I should like.

I prize GLEANINGS very highly; and while I continue to try to handle bees I will be a subscriber; so that, when I say "stop," you may know that I am stung out of the business.

The supplies ordered of you all came in splendid condition, and gave perfect satisfaction. The foundation I thought very fine.

I am wintering in cellar. I did not get any honey this season, it being very wet here.

Jewell City, Kan.

D. A. ATKINS.

A BEGINNER'S ENTHUSIASM; MOTHS; SCORCHED SORGHUM, ETC.

About nine years ago I paid five dollars for a large swarm of hybrids in an old American hive, with two or three frames of brood and honey, to start with. I also procured an old volume of King's text-book on bee-keeping, in connection with a few copies of King's periodicals. In perusing these

books my enthusiasm for bee culture was aroused. It was here I first noticed A. I. Root's advertisement of GLEANINGS and supplies. His talk was quite homelike—so reliable, and not puffed up. The idea that he opposed patents—all things free—was so much to my taste that I at once sent for a sample of GLEANINGS. The sample came and I investigated until my enthusiasm caught to a flame. I was soon a subscriber to GLEANINGS, and really calculated the time that I should have 100 colonies, of thousands each, of living beings to gather in the luscious sweets of the country, and place it right at my feet. But, alas for a continued burning ambition without some realizations! I have barely succeeded in keeping the flame aglow. The burning is really painful at times. If apiculture is ever a success in these parts it will be of a cultivated source. Hitherto the profit (which consists mainly of "anticipation") does not cover expenses.

Last fall, a year ago, the "water" being dried up in my mouth for the taste of honey (hopes being blasted), I decided to try the queen business, and sent to friend Root for a choice imported Italian queen, which proved a "daisy" with me. Early last spring the yellow bands began to appear, and in a short time I had a full corps of Italian workers. Here my hopes took another "boom," as they seemed to work with more determination than I had been accustomed to see. In spite of the bad season last year, these bees did better, every way, than usual.

ITALIANS A SURE CURE FOR MOTHS.

Tell all who are troubled with moths, to Italianize. I firmly believe, if I were to place a frame, riddled with moths, in the midst of one of my hives, the bees would carry it out in less than two days.

SCORCHED SORGHUM.

Last fall I went into winter quarters with five stands, in good trim, as I thought. In the after part of the winter I noticed the bees of one hive coming out, at every warm spell, and perishing on the ground in every direction. By investigation I found solid sheets of sealed stuff which tasted like scorched sorghum. A part of the stores seemed to be grains of sugar, and some thick water mixed. When I overhauled the other four hives I found this watery substance would run out of the combs when tilted over. I threw a great deal of it out with my hands.

A. P. STAIR.

Whitney, Ala.

RED ANTS KILLING QUEENS IN THE CELL; SIMPLICITY CHAFF HIVES.

My bees have acted very strangely indeed. One colony, consisting of a first and second after-swarm, cast a swarm; and no one being near, it flew away. When it was time for the young queens to hatch I examined the hive and found that the bees were tearing down the queen-cells, so I began examining those not torn open, and I found that, in every case, the immature queen was dead, and the cell infested with very small red ants, hardly visible to the naked eye. Do you think that the ants destroyed the queens, or did they get in after the queens died? I believe they killed the queens, else why should every cell be infested, and every queen dead? About a week afterward I gave the colony a hatching queen, and three days afterward there were eggs in all the combs but one.

On the 6th of Sept. an absconding swarm from a neighbor entered a hive containing a swarm. They killed my queen, and, having brought none with



them, they had to wait until some of the cells (a number were already capped) should hatch. In the mean time I divided them. On the 13th the colony above mentioned cast a swarm, which I put in with a nucleus, but about half of the bees went back to the old hive. A day or two afterward another swarm issued and absconded. This all happened during a great dearth of honey.

Bees did very well on buckwheat, goldenrod, aster, ironweed, smartweed, and another weed that grows in damp places or on low lands, to the height of two or three feet, and has a bushy top, thickly set with small white blossoms. Stocks that had scarcely any honey have now enough for winter.

The select tested queen I bought of you is doing nicely; she has quite a large family of her own raising.

I have made a *simple* chaff hive as a kind of experiment. It is made just like a *Simplicity*, except that it is four inches longer, and the rear end is fastened in with three wood screws in each side, so as to be movable. When you wish to pack up your bees for winter, take out the screws, move the end-board back, and put in the screws. Slip in two 2-inch crosswise chaff cushions (made like your chaff-cushion division - boards), then a chaff cushion on each side; hang in your 7 frames of bees and stores; put on the winter covering, and, presto, you have a chaff hive all complete. What do you think of it? Has any one ever tried a hive of this description? If you think it worth naming, call it a "*Simplicity* chaff hive."

ALWIN S. HEIM.

Chandler, Ind., Oct. 9, 1885.

For many years we have had reports in regard to red ants destroying queens; also in regard to their propensity to bite into queen-cells and destroy the inmates. We have learned some sad lessons in losing imported queens by leaving the cages containing them where the ants had access. You will find a foot-note referring to the matter, in the A B C book. I have known ants to do considerable damage where combs were left uncovered by the bees—especially combs containing queen-cells; but I do not know that we have had a report before where they invaded the hives. Very likely your hive was left comparatively unprotected, by casting a heavy swarm. In such a case I would try to find the nest of the red ants and treat them to boiling water or turpentine.—*Simplicity* hives made with a movable end-board have been suggested before. The objections are, that where you find it but little labor to fix over one hive, or, say, a small number of hives, with a large apiary you would find it, I think, altogether too much machinery. Another thing, such a hive is much more liable to be invaded by frost than the regular permanent chaff hive.

#### 510 COLONIES IN WINTER QUARTERS.

I suppose you know we are in the bee-business pretty heavily, having gone into winter quarters with 510 colonies, kept in six different yards, or apiaries. We have a great many letters of inquiry about our management of bees in so many places, and why we don't write more for the papers, etc. Now, if you wish I will try to talk to the friends some this winter through *GLEANINGS*.

Platteville, Wis.

EDWIN FRANCE.

To be sure, we know you are one of the

big bee-keepers, friend F., and we are always glad to get reports from those who have such large experience as this number of colonies must give. Send us on your talks, and we will at least try to pay you for the time and trouble it takes.

#### CAN HONEY BE ADULTERATED WITH GRAPE SUGAR, AND NOT BE NOTICED?

I mail you a sample of honey (?). I bought it for white-clover honey, as advertised in *GLEANINGS* for September 15. It has occurred to me that something similar could be made of grape sugar and water with a greater or less proportion of honey; but I reserve judgment until I hear from you. What I wish to ask is, Would you be willing to sell this honey to your customers for pure honey? By giving your opinion you will greatly oblige.

Mt. Vernon, Iowa, Nov. 6, 1885. OLIVER FOSTER.

Friend F., the sample of honey you send is about the nicest clover honey I ever tasted, and its being candied so perfectly white and solid is the best proof of its purity. The addition of even a very small quantity of grape sugar, by some means which I can not explain, *prevents* candying, instead of hastening it. Two or three years ago Prof. Cook made some careful experiments in this matter. The addition of grape sugar also gives the honey a peculiar flavor, which I think I should recognize readily. I am sure the honey from the friend you mention is absolutely pure; and, by the way, ought we not to be very careful about letting such ideas get into our heads? In regard to adulteration, if we as bee-keepers have not charity and faith in our fellow bee-keepers, how shall we expect the great world at large to hold fast to the beautiful thought contained in the sermon on charity—"thinketh no evil"? During the past year a great many samples have been sent to me, asking if I did not think such a sample was adulterated; but every single sample, so far, I have pronounced pure honey; and, what is still more strange, the most of the samples have been *extra* nice honey.

#### BEE-KEEPING IN THE REGION OF LAKE SUPERIOR.

As I think it probable that you never have had a correspondent from this region, and have probably no idea that bees can exist, or that they have ever had a chance to up here, I send you a few lines.

The bee business is in its infancy in this region of country; and whether it will ever get beyond that is generally conceded to be an uncertainty. I think that there are not more than fifteen hives of bees in the upper peninsula of Michigan. I have started in the business to make a success if I possibly can. I got two hives from Own Sound, Ont., last June. I have now four as the result. I have put my bees in the cellar, as our winters are more severe than yours, although a neighbor of ours is going to try his out of doors. What I fear the most is our late cool springs. Am I correct in thinking the snow ought to be mostly or all off in the spring before taking the bees out? R. N. ADAMS.

Sault de St. Marie, Mich., Nov. 19, 1885.

Friend A., as a rule the weather is hardly fit for bees to fly before the snow is all off, but circumstances may alter the case. We have occasionally a season when bees work quite industriously while considerable snow

remains in the fields. Where there are high hills or mountains, the bees often work in valleys while snow covers the high lands.

#### SWEET CLOVER NOT YIELDING NECTAR.

My neighbor sowed about  $\frac{1}{2}$  acre in sweet clover last fall, and now it is in full bloom. He says there is not a bee at work on it yet, and it has been in bloom for 10 days. Can you tell us why they are not at work on it?

I commenced this spring with three colonies, Italians, and they have increased to 14, all in good condition now, and plenty of honey besides. I had 15 colonies of black bees in the spring, and they have increased to 28 colonies, and three of these colonies did not swarm at all, so I have about 42 colonies in all from 18 in the spring, and all natural swarms. I have no report yet on honey. R. S. RAINS.

Lovelady, Texas.

Friend R., we have had the same experience with sweet clover, but the next season it seemed to yield honey bountifully, and has every season since that. Sometimes the bees will not touch it while basswood or red clover is yielding, but they go on to it in great numbers as soon as the honey from these sources is gone.

#### THIN SECTIONS TO HOLD A POUND—HOW LARGE?

I want to make a section box 1 7-16 inches wide, of such size as to hold a pound. Can any of the readers of GLEANINGS give me the necessary information? How near will  $4\frac{1}{2} \times 4\frac{1}{2} \times 1 \frac{7}{16}$  be to the right size to hold 1 lb.? W. S. VANDRUFF.

Kirby, Pa., Nov. 19, 1885.

Friend V., it all depends on whether you expect to use separators or no separators. Without separators, I think the size you give would be pretty nearly right. If separators are used, you will want it, I should say at a rough guess, nearly 5 inches square; for 7-16 is no thicker than a good many brood-combs where honey is stored in the upper part.

#### A BEGINNER'S EXPERIENCE IN TRANSFERRING.

I must tell you about my progress at beeing. First my father kept bees for about 20 years, always afraid of them, and never took any honey, only "maby eight or nine pound" a year from seven or ten swarms; so I read A B C, bought a smoker from you, then I tackled the box hives and shook the bees in a Simplicity hive that I made. I took one hive of bees in the wood-shed, and was going to transfer (by book form), but I had trouble in getting the side off the hive until one bee took me "kazip" on the ear, then I settled to "biz." I got "astraddle" the hive, with hatchet and chisel in hands, and went to work. I got along finely, and kept on until I transferred ten hives (different days). I liked it, for it is so much fun; if I'd get stung 25 or 30 times, it soon would be forgotten while working with the bees. I had several swarms this summer, and several left. Honey was not very good for yield, but nice eating, although I got a fair supply—enough to sell some, and kept plenty to eat, which is about 150 to 300 lbs. for my brother and me. We are both small boys—about 180 lbs. apiece is our weight, and we like honey. I tried to get my brother to eat too much honey, so he would get sick, and I could try the remedy for colic—that is, only plenty of sweet milk, and drink it; but he was not subject to any such ailings.

I had some sections partly filled, so I took all out except one hive, and in front of that I put a box filled with these partly filled sections, for the bees to take up the honey from below and finish filling their partly filled ones; so I completed some sections, and the rest are empty, ready for next year. I noticed last spring with my bees that I could tell (by smelling) the difference between drone and worker comb. Is it a common thing? Can bees hear any sound that is loud, such as loud talking?

Aviston, Ill.

J. J. RANDALL.

Friend R., your plan for getting the bees to complete partly filled sections. I should think, would be in great danger of inciting robbing. However, if you have got along all right, that is all that is wanted.—I have never before heard of anybody who could tell drone from worker comb by the smell. We should be glad to have others try it and report.—The matter in regard to bees hearing has been pretty fully discussed in our back volumes. The general decision seemed to be that they could not hear unless the sound were accompanied by some sort of a jar; but as more or less jar accompanies every sound that is made, I do not see how the question can be very definitely answered.

#### QUESTIONS FROM A BEGINNER IN REGARD TO WINTERING.

I do not like to bother you very much; but if you will answer two or three questions I shall be obliged. I have got my bees all in two-story chaff hives, with oat-chaff cushions on top, and three one-inch pieces under the cushion to hold it up. The cushion fits in pretty close, but the frost comes up around it. Do you think it will do any harm? They have got all of their frames of honey, nine and ten, the same as they had all summer. We have lots of snow here now. The wind blew so the other night that it filled the entrances full of snow, and it froze in there so full that no air can get out. Is it safe to leave it in there, or would you dig it out? I tried to dig out some of it, and the bees came out on the snow and died. I have a swarm of bees that are very sick now. They are crawling out and dying all the time. The queen is a daughter of the imported queen I got of you. As it is a good colony I do not like to lose it. If you can tell me any thing about it I shall be very glad. FRANCIS C. SMITH.

Kilmanauagh, Mich., Dec. 7, 1885.

I do not think the frost is any thing out of the way, friend S. The moisture from the breath of the bees ought to come up around the cushion; and where the weather is very severe, of course it will make frost around the openings. Don't bother with the snow at all. I can not remember where I have ever known snow to do harm. On the contrary, it is the bee-keeper's best friend; and yet we have more inquiries every winter in regard to snow around the entrances than almost any other one subject. Disturbing the bees by trying to clear the entrances results just about as you mention. I do not know what is the trouble with your sick bees, unless it is that they have bad honey. Putting lumps of candy right over the bees, so that they may subsist on candy stores instead of the honey in the combs, will sometimes stop the trouble until we have weather warm enough to permit them to fly out.



## WASTE MICA FOR BEE-VEIL FRONTS.

I notice, in June GLEANINGS, your remarks about bee-veils having glass fronts. Now, there are several objections to glass, which are too obvious to mention. I sent for some samples of waste mica from the works here, where it is mined and cut for use in stoves. Would not this material be excellent for the bee-veils? It will not break, and can be perforated with a needle, and sown on to the netting. It is also cheaper than glass, as it can be got here for a dollar a pound, and a pound would have several hundred pieces in it. You will notice how easily it can be split to any thinness, and can be cut with scissors. If you would like some of it to test I shall be glad to send you some. H. STEWART.

Webster, N. C.

Thanks, friend S.; but mica has already been used for the purpose you mention. A few years ago it was advertised in GLEANINGS, and tested considerably; but although it does not break like glass, it has the same objection of being made obscure by dampness from the breath, and by getting soiled and dusty, so it must be wiped almost every time a veil is used. On these accounts it has been dropped. Thanks for the beautiful specimens you send.

## AN APOLOGY TO MRS. COTTON.

I send you a letter, received from Mrs. Cotton, asking me if I authorized you to publish her as a humbug. Now, friend Root, I think that I owe Mrs. Cotton an apology. At the close of our correspondence in regard to that colony of bees, Mrs. C. made a proposition that she would send me another colony in the spring. I wrote her that I was perfectly satisfied, and I have now no reason to doubt that she will do just as she agreed to. Therefore I had no reason to write what I did, and I feel that I did Mrs. C. a great injury, and I am willing to acknowledge it. H. ADAMS.

Port Austin, Mich., Dec. 14, 1885.

We are glad indeed to hear so much in Mrs. Cotton's favor; and I agree with you, friend A., that it is a manly thing to do, to make acknowledgment when we fear we have been unwise.

## HOW I RAISED SOME MOTH.

Now for the moth. I took two nice frames of comb, one containing 2 or 3 lbs. of honey capped over, and I put some sugar syrup into the other card. I have had these right in the house where I live for nearly two months. There was no sign of moth or worms in either card of comb when I brought them in, and the other day I took out the card that I had put the syrup in, and it was destroyed by the moth. Some of the worms were over one inch in length, while others were half grown, and still others not over one-fourth of an inch long. Now, how is this? I thought that a gray miller laid the eggs that produced these worms. Had these eggs all been laid while the comb was in the hive, why did they not all hatch at once, and the worms all be of one size? or do the worms produce eggs? which will you have it? There could possibly no miller get at these two cards, for I had them in a close-fitting box, with fine wire over the entrance.

Mineral Point, Mo., Dec. 16, 1885. O. F. BEAL.

Friend B., it is well established that moth is almost sure to hatch out from brood-combs when removed from the hives during warm weather. You will find the same thing

mentioned in the A B C book. Without question, the combs contained eggs that remained in a dormant state until the warm temperature of the house caused them to hatch. I believe it is pretty well decided, however, that the worms do but little harm unless the combs contain pollen. With plenty of pollen for them to feed on, there is no trouble in getting moth worms an inch long, or even longer. I do not know how long the eggs will remain in the combs without hatching, but perhaps a year or more, if the temperature is not warm enough for them to hatch, nor cold enough to kill the eggs; for the eggs are not always killed unless they are subjected to a freezing as severe as 15 or 20 above zero.

## FRIEND GOULD INTRODUCES HIMSELF TO OUR READERS IN POETIC MEASURE.

Good morning, Messrs. bee-men, and bee-women too,  
 And to be a bee-man, what else I may do.  
 On the sea of bee-fame I've launched my canoe,  
 So here is my "how do you do?"  
 As an A B C scholar, about the first of June  
 I commenced handling bees, and getting used to their tune.  
 Twelve four-frame nuclei and two full stocks  
 Was the shape of my lesson, and size of my flock.  
 Seven divides and fifteen introductions I've successfully done,  
 Including four queenless colonies, with fertile worker one.  
 Made twenty-four hives of Simplicity style,  
 With inside axin's, but haven't struck ile.  
 The gathering, in this section, has been so slim  
 That the bees haven't brought in the sweets with a vim,  
 So that, instead of BIG yields, which so many boast,  
 I've hardly enough to spread on my toast.  
 But where there is life, they say "there is hope,"  
 So, if my bees live, I will "give them more rope,"  
 As I've twelve Simplicities buried in a hill,  
 And thirteen on summer stands—they can't freeze if they will.  
 While two swarms took wing and got out of my range,  
 Counting one, which I sold, and you can see the increase,  
 Allowing two, which I doubled, to save me their fleece.  
 Of foundation, I've used thirty pounds or less,  
 Which has initiated me in most of the manipulations, I guess.  
 I've done all this work unaided and alone,  
 Without having once been stung—by a drone.  
 So, whether I'm well up in my class, or to be placed at the foot,  
 I leave the decision to—A. I. Root.

Corunna, Mich.

J. T. GOULD.

## A PLEA FOR THE MUCH-ABUSED MILKWEED.

I inclose a slip cut from the *Planter and Stockman*, of St. Louis. Either the editor must be mistaken, or the milkweed acts differently in different localities; for I can truly say, that if it had not been for milkweed the writer would have been in Blasted Hopes long ago, for three-fourths of our honey crop is from that same milkweed. Though I have diligently searched for bees that were so loaded down as to be unable to leave the blossom at all, I have not yet found any. I know that the bees go in at the entrance, and out of sight, with milkweed honey, but I do not know that they climb the combs; but I do know that the honey gets into the section boxes in very nice shape. I never yet saw any fighting when milkweed was in bloom, but I have seen quite a little pile of the balls that stick to their feet on the ground in front of the hive, sometimes as much as a small handful. I often see bees come out of the hive fastened together with it, and fly away after more stores, sometimes separating on the bottom-board, and sometimes after flying a few feet, and sometimes going out of sight together. Long live the milkweed!

GEORGE L. HUBBARD.

Fairview, Dak., Dec. 26, 1885,

Friend H., I have long suspected that the damage done the bees by the milkweed was somewhat exaggerated, therefore I am very glad to have you give us positive facts in regard to the matter. From your statement I should infer that your bees were troubled about as much as bees ever are with these impediments on their feet.

## REPORT FROM THE REVERSING DEVICES, ETC.

Thanks for the bellows spring. It came just in time for use; it works admirably. I will see that you lose nothing. I shall need some more reversers in the spring. I couldn't make the bees take the honey out and store it in the sections. I would break their cappings, but they would repair them and seal them up. But they are very handy to have, and I prefer them to the tins. If any one has been successful in getting the honey taken out and stored above, I should like to see a report, in GLEANINGS, of the manner and mode of operation generally.

## ASTONISHING THE "OLD WISDOMS."

I had six colonies in the spring, all in good shape. One lost the queen early in April, and didn't do very much till I put on a new queen. I had no increase, and took out 359 full sections of white-clover and basswood honey, and have from 50 to 75 lbs. in partly filled sections. I took 94 full sections from one young swarm, and there is fully 15 lbs. left in partly filled sections. This large result astounds the "old wisdoms," who still put their trust in box hives and nail-kegs, and now they are "go'in' to git" some of

## "THESE 'ERE NEW FIXIN'S."

I prevented increase by following the directions of Prof. Cook, by hiving No. 2 where No. 1 went out. There was a great yield in basswood, but the buckwheat yield was almost nothing, though there was 100 acres within a radius of two miles. With us, buckwheat usually gives a large yield; but it was wet and cold this year, just when the buckwheat blossomed. I raise honey for my own amusement generally, and to give to my friends; but I like to make a success of it.

A. POTTER.

Bennington, Vt., Sept. 30, 1885.

## A POOR SEASON.

Our bees are laid up for their winter repose. We have no large reports to make, but still the ball is rolling. This has been one of the poorest years known for fifteen years. We have been using the Heddon cover, but do not like them, for the bees build ladders of wax to them; and when the covers are raised it pulls the frames with them, killing a number of bees. One desirable point is their cheapness. "Where there is a will there's a way," is an old saying, but a good one. We are not in Blasted Hopes, but our bees have gathered but little honey—about 300 lbs. in all, or not enough to supply our home market. We have been helping some of the brethren out of the fire by selling their honey. We also have to show for our work a fine lot of home-bred Italians.

W. S. DORNAN.

Mechanicsville, Ia., Dec. 5, 1885.

## EIGHT SWARMS LOST BY COWS KNOCKING THEM OVER.

As I am a beginner in bee culture, I do not know that my report will be of any advantage to the science of bee culture. This is my third year in the business. The winter of 1884 I carelessly lost eight colonies out of 16 by my cow getting to my hives one night when it was raining hard, and knocking the tops off to get the leaves they were filled with; so this past winter I concluded to remedy that trouble by covering with old carpet, setting my stand on the ground with only inch pieces under them. I then put boards to the sides and back, as high as the first story, and banked with dirt; and as we had an unusual amount of snow, my bees were covered with nearly 18 inches of snow and two heavy crusts,

so I know they did not freeze. I had 19 stands to start with, but three of them I knew could not get through without being fed through the winter; but when winter once set in, the feeding played out, so they "went."

## INTERFERING WITH THE LOWER STORY.

That hive I bought of you I filled with a swarm. They filled the lower story full, and then 28 1-lb. boxes on top. Had I taken the top crate off, and let the lower story alone, I am sure they would have gone through all right; but I took out the 16 pound boxes from below, when they could make no more honey; consequently they starved. So I have learned that it will not do to risk interfering with the lower stores in this country.

## SMOTHERING BEES WITH ICE AND SLEET.

Last winter I had two stands I think smothered, as the whole hive was hermetically sealed under two crusts of ice, and at one time the sleet sealed the entrance for a few days before I discovered their condition; and when I opened them this spring the covers were as wet as water. They had 15 or 20 lbs. of honey apiece left. I have about 3 hives, where I ought to turn in, on the racks of comb, a pound of bees and a queen, but I know of no bee-man handy for me to get them.

Daleville, Ind.

W. W. CORNELIUS.

Friend C., had your hives been made properly, I do not think your bees could have smothered, even under two crusts of ice, as you mention. What I mean by "properly made" is, with ventilators under the cover that can not be stopped with ice and snow, and a porous covering over the brood-nest.

## A GOOD WORD FOR GEO. E. HILTON'S CHAFF HIVES.

I have noticed the cut of friend Hilton's hive and apiary, with a great deal of admiration. I have used this hive for the past three years by the side of others; and for a hive to produce comb or extracted honey, as a non-swarming and wintering hive, I feel it would be hard to excel. The large capacity for storing surplus in crates or super he uses, gives them so much room at the right time, and the advantage of replacing empty sections has a tendency to retard if not prevent swarming. The heavy walls and winter cushions with large air-space above make them an excellent wintering hive. I now have 57 of those hives in my apiary, painted in six colors, which renders them very attractive. In this part of the country, where losses by wintering are quite heavy, I can especially recommend them.

## TROUT CULTURE.

I notice, also, you are interested in fish culture. Well, I raise speckled trout, the common brook trout. I now have specimens which will weigh 2½ pounds—little beauties. I am hatching 40,000 this winter. My ponds are not completed, which will be seven in number. The work, however, is being rapidly pushed by the contractor. They are costing \$1200, and it remains a conundrum whether I ever get back my money. The trout is not as easily raised as the carp. They require cold water; they can not live in water above 70°. The price of trout is usually 50 cts. per lb. here, and often more. Perhaps I may write you again upon my success or failure.

W. D. FRENCH.

Grand Rapids, Mich., Nov. 16, 1885.

Friend F., I am very glad indeed to know that speckled trout can be propagated in the way you mention. Has the matter ever



been made a success? At half the price you mention, it seems to me it would be a wonderful achievement, and speckled trout would sell in our city markets at good prices in immense quantities, without doubt. By all means tell us how your experiment turns out. It seems to me you are starting in pretty heavily, if it is indeed an entirely new industry.

#### THAT NAMELESS BEE-DISEASE.

I had some questions to ask, concerning one swarm, but I see you have satisfied me in a late issue of GLEANINGS, except dates. Yours is August 28, mine is July 3. One queen, with 1 lb. of bees, bought July 3, has all the symptoms named in that piece, that unknown bee-disease, and it is fast dwindling away. I don't think there are bees enough left to make one pound. They have been thinning their ranks for six weeks. I have been watching them very closely, and never, in all my experience in 25 years, have I seen any thing like it. It produces such odd-looking, mangled bees. Some look like beetles and flies, small head and neck, and shoulders large; black and shiny abdomen.

Spencer, Ohio.

WM. DAGUE, SR.

## REPORTS ENCOURAGING.

#### FROM 29 TO 51, AND 3100 LBS. OF HONEY.

**M**Y report for 1885. I went into winter quarters in the fall of 1884 with 47 colonies, and came through with 31—three-fourths of them very weak. I sold two, leaving 29 to commence the season with. I increased to 51 and got 3100 lbs. of surplus honey, extracted, except 150 lbs. comb honey. Nearly all is sold at 10 and 12½ cts. per pound for extracted and 15 to 20 cts. for comb. Bees have plenty of honey of a good quality for winter supplies. L. G. PURVIS.

Forest City, Mo.

#### FROM 15 TO 48, AND 2500 LBS. HONEY.

This is the way our bees panned out this year. Spring count, 15 colonies. Increased to 48, and took 2500 lbs. surplus honey—1800 comb, and 700 extracted, worth on an average 15 cents per lb. Increase of bees, 33 colonies, at \$5.00 per colony, \$165.00; 2500 lbs. honey at 15 cents, \$375.00; total, \$540.00, or \$36.00 per colony. I attribute much of this success to sweet clover. E. W. FITZER.

Hillsdale, Iowa, Dec. 25, 1885.

#### FROM 84 TO 129, AND 9000 POUNDS OF HONEY.

I commenced the season with 84 colonies, all blacks but 6. I increased to 129, and took 9000 lbs. of honey. I have about 120 hybrids and Italians now. The black bees did no good this season. The spring honey crop was a failure, but we had a honey-flow in the summer and fall. I am very well satisfied with the season's work, but count it about half a crop. 3—D. M. EDWARDS, 84—129.

Uvalde, Tex., Dec. 2, 1885.

#### FROM 18 TO 51, AND 1000 LBS. OF HONEY.

Our bees were reduced to 18 swarms last spring, and nine were weak. We increased to 51 good colonies, with abundance of natural stores for winter, and have taken about 1000 lbs. of honey, mostly extracted, clover and basswood, and some fall honey. I like the Syrio-Italians, large red clover (pastured for seed it has smaller heads than the small red clo-

ver), and the Langstroth chaff hive. Our spring dwindling was mostly of those wintered in the cellar.

ILA MICHENER.

Low Banks, Ont., Dec. 4, 1885.

#### 5000 LBS. OF COMB HONEY FROM BASSWOOD.

With the aid of very fine weather I have secured about 5000 lbs. of basswood honey in sections—a very light crop, though it is one of the poorest seasons we have had for years. Our basswood began to bloom on June 14, and I saw this day on the highest ridges trees which had not bloomed, and they were full of young buds. A. W. CHENEY.

Kanawha Falls, W. Va., July 10, 1885.

#### FROM 83 TO 160, AND 3500 LBS. OF HONEY.

I started this season with 83 colonies of pure and hybrid Italians; increased by natural swarming to 160 colonies (did not accept any after-swarms). Amount of surplus, 2300 lbs. of white-clover honey in 1¼-lb. sections, and 1200 lbs. extracted. This was a poor season, too wet and cold. I have now 140 colonies all ready for cellar, but we are having very mild weather. Last year bees were taken into cellar Nov. 23, and wintered very well.

W. ADDENBROOKE.

North Prairie, Wis., Dec. 4, 1885.

#### A GOOD REPORT FROM VERMONT.

I commenced bee-keeping in the fall of 1884, by buying two swarms of black bees in Langstroth hives. One died out in the winter. The other came out all right; swarmed once, and made 68 lbs. of surplus. The new swarm made 20 lbs. of surplus, besides enough to winter on. They had only one frame of comb, no fdn. I bought five swarms of Italians this fall at \$6.00 a swarm. If they live this winter, I shall get foundation another spring. There are acres of raspberries about here.

Barre, Vt., Nov. 23, 1885.

H. W. SCOTT.

#### FROM 10 TO 20, AND 400 LBS. OF HONEY.

Here is my report for 1885: I purchased this spring ten colonies in movable-frame hives, paying \$45.00 for the ten. The hives were not the same size as the one I use, so I transferred most of them to the standard Langstroth hive. These bees were mostly hybrids, with one pure Italian and one black stock; every original stand cast one swarm, but I did not allow them to cast any more than one. The Italian stock was the first one to swarm; and from this swarm and the parent stock I got over 100 lbs. of comb honey. My total yield was 300 lbs. comb and 100 extracted, and increased from 10 to 20, good strong colonies. I introduced five of A. I. Root's dollar queens, of which I lost two in introducing. I took a case of comb honey and a few jars of extracted to our county fair, and was awarded first premium on comb and second on extracted. The premiums amounted to six dollars, which was quite a help to one just starting in the business. This has been a very poor honey season in this county. Bee-keepers who had a large number of stands did not get any surplus, so I am well satisfied with my gains, and am thankful. HARRY LATHROP.

Browntown, Wis.

#### 128 LBS. OF BUCKWHEAT FROM ONE POUND.

I bought one pound of silverhull buckwheat of you last spring, and I thrashed 128 lbs. from that one pound. My bees went into winter quarters in good condition, and with plenty of stores.

Blairtown, Iowa.

O. P. NICHOLS.

I should think the above was a very ex-

traordinary yield, friend N. It is worth something, any way, to know the capabilities of silverhull buckwheat. We presume you gave it every advantage of soil and cultivation.

## SHORT REPORT FROM FRIEND HART.

### ROBBING IN FLORIDA.

**M**R. HARRY MITCHELL, who has been with me for the past four years, and had full control of my bees for the past two, has now left me, and gone to his own place, half a mile away. When he went away I sold him twenty-five colonies of bees to start an apiary of his own with, and it's my opinion that those twenty-five colonies will never disgrace the apiarian interests of this State while under Harry's charge. This sale leaves me with 125 colonies to start with next season, "if I carry them through the winter," a Northerner might say; but that is hardly necessary here, as I can work with them almost any day, and can commence to raise queens in February, if need be. I have just finished looking them all over, having been at work on them the past four days, Sunday excepted, and I find them in prime condition. There are five out of the lot that were sufficiently short of bees so that I thought best to take off the top sections, to economize heat. I also have two very small colonies in one-story hives, made a few weeks ago by uniting four small nuclei, two nuclei to the colony. These seven are in good shape, although small in numbers, and will no doubt be strong colonies early in March. The rest are in two and three story hives, and are as strong in bees as I have ever known them to be at this time of year. I believe that they will average from 30 to 40 pounds of honey each, and some three-story hives have at least 50 pounds each.

It has been my custom, at the close of the main honey-flow, early in August, to leave twenty pounds of honey in each hive, and I think Harry has done the same. If so, the bees have done quite well during the fall from small wild flowers. Mr. O. O. Poppleton, from Iowa, who is now stopping on his property here, and Mr. Storer, from Nebraska, were both with me for a while this afternoon, and both pronounced my bees to be in fine condition. They seemed surprised at my being able to open hive after hive, and handle the combs freely, many of them containing considerable new uncapped honey and pollen, and yet not start robbing. Many Northerners have an idea that bees in this State are always ready to start a robbing spree on the least encouragement, and some of the bee-men near here declare that this is the case; but I believe that their trouble comes from educating their bees to it. It is true, that robbers here, as anywhere else, have to be guarded against for a while after a honey-flow ceases; but my experience has never shown any greater tendency in my bees toward that direction here than I am led to believe exists elsewhere, although they have much more time during each year in which to develop the trait. I have never seen a case of robbing here among the bees that could not be quickly stopped by placing wet cloths at the hive-entrances, so that all bees going in or out had to pass over and under them. To hasten matters it is well to sprinkle those that are flying

about, with water from a fountain pump. The wet hay used by some bee-keepers answers the same purpose.

While at work in the apiary to-day I have noticed quite a number of wasps, or yellow-jackets, as they are called, tearing the abdomen of the bees from the thorax so that they could get at the honey-sack and its contents. If I ever noticed any thing of the kind before, I have forgotten it. A small swarm came to me day before yesterday which I hived on six frames. The queen is now laying, and evidently intends to remain and raise a family. I am liable to come out at the beginning of next season with more than I had at the close of last season, as this is the second swarm to come this winter. My oranges are cracking quite badly on the trees this year; and the bees, knowing a good thing when they see it, are helping themselves to the juice.

9—W. S. HART, 125.

Hawk's Park, Fla., Dec. 21, 1885.

Friend H., I quite agree with you that this whole matter of robbing depends upon the management. During the past season, although we have had between 300 and 400 colonies at one time, and many of them quite weak, comparatively, for they are used for queen-rearing, yet we had scarcely a case of robbing. The bees didn't get once started, and therefore it was but little work to keep them from it. Attending to little things at just the right time is the great secret of avoiding such disasters. I have sometimes, in utter discouragement, almost concluded there were certain people who could never learn to be successful with bees, just because no amount of exhortation or entreaty, and, in fact, no amount of disasters and heavy losses, could teach them by experience the importance of keeping every drop of honey, or any other kind of sweet, so carefully out of the way that not one bee ever got one load, and got home with it. The same rule applies to bees troubling candy-shops on the fair-grounds. Tell the proprietor to kill the first bee that commences to load up on his lemonade or pop-corn balls; and if he will do as you direct, a very little time will make him master of the situation.

## HUMBUGS AND SWINDLES.

### MORE ABOUT HULLESS OATS.

**T**HERE are men going around here selling Bohemian oats at five dollars a bushel, and agree to give one dollar a bushel for all the farmers can raise from this seed. There is a "Bohemian Oats" association some place in Ohio; do you know where it is? I did not take any myself, but five of my neighbors are in for fifty dollars apiece.

HIRAM WEAVER.

Seireleville, Clinton Co., Ind., Nov. 7, 1885.

Friend W., the swindles of the Bohemian-oat men are now so thoroughly published in almost all our agricultural papers that it seems to me strange that a man can be found anywhere who is not well enough posted to turn a cold shoulder to them at once. A good many associations have been formed in our State; and although a few men may have got some money out of it, they have got a bad name that will last them to the end of their lives, unless they repent and restore the money to its rightful owners.



# GLEANINGS IN BEE CULTURE.

Published Semi-Monthly.

A. I. ROOT,  
EDITOR AND PUBLISHER,  
MEDINA, O.

TERMS: \$1.00 PER YEAR, POSTPAID.

For Clubbing Rates, See First Page of Reading Matter.

MEDINA, JAN. 1, 1886.

He that is greatest among you, let him be as the younger; and he that is chief, as he that doth serve.—LUKE 22:26.

DISCOUNTS FOR THE MONTH OF JANUARY, 1886.

As business is still moderate, a discount of 4 per cent on all orders sent us during this month will be allowed.

The discount of 10 per cent on foundation will be continued so long as the price of wax remains where it is.

THE KANSAS BEE-KEEPER.

In response to the editorial in our issue for Nov. 1, friend Scovill replies as follows in regard to the unexpired time on his subscription-list:

I am now paying back amounts due, as fast as I can, and shall continue till all are paid. H. SCOVILL.  
Galena, Kan, Dec. 2, 1885.

AN OMISSION.

My attention is called to the fact that I omitted to say that the beautiful volume of *Paradise Lost* was presented to me as a birthday present. Remember, I told you, in an editorial in our issue of Dec. 1, that I should be 46 years old on the second day of the convention.

FATHER LANGSTROTH'S BOOK UNDERGOING REVISION.

I AM pleased to make the above announcement, and also to be able to tell the bee-friends that the work is in the hands of such able men as Charles Dadant & Son. I can not say just how soon it will be out—may be some little time yet; but when it comes it will be fully abreast of the times.

NUMBER OF SUBSCRIBERS TO GLEANINGS ON THE LAST DAY OF 1885.

ALTHOUGH we have not as many as we had one year ago to-day, friends, I am happy to find that, by actual count, we have 4045 to start the year with. Considering the general depression in business, losses during the winter of a year ago, and the low prices in almost every thing, we think we have abundant reason to say, "Thank you."

FRIEND HEDDON ALSO AT WORK ON A BEE-BOOK.

We are also pleased to note that friend Heddon is hard at work embodying the many good things he has given us in years past, in a book on bee culture. No matter how many bee-books you have already, I presume every one will want to add Heddon's book to his collection. We do not know when it will make its appearance, but we presume friend Heddon means to take time enough to do it well while he is about it.

BOUND VOLUMES OF GLEANINGS FOR 1885.

As we have quite a good many left over, we will furnish these, neatly bound in cloth, for an even \$1.00, and pay postage besides. If you want a bound volume by express or freight, with other

goods, the price will be 80 cents. If any one should want to know what we will charge to swap one of these bound volumes for your old ones unbound, the price will be 40 cts., you paying all postage both ways.

THE BRITISH BEE JOURNAL A WEEKLY.

We have now three weekly bee-journals well established—the *A. B. J.*, the *B. B. J.*, and the *C. B. J.* The *B. B. J.* commences as a weekly during this present year, 1886. We have not completed arrangements yet with the publishers for our usual exchange; but until further notice we will furnish it with GLEANINGS for \$3.50 per year. Since it is weekly, the postage amounts to something like 50 cts. a year.

CHARLES F. MUTH & SON.

We are informed by postal card that hereafter the above will be the name of the firm that does business in place of the usual C. F. Muth. And that is the way to do it. When we old folks get well along in life, let us allow some of these responsibilities to rest on the shoulders of the younger ones, while we attend conventions, make neighborly visits, and stir around enough to knock off the sharp corners. Best wishes to the new firm.

\*REPORT OF THE N. A. B. K. A. AT DETROIT.

As both the *American Bee Journal* and *Canadian Bee Journal* have given such very full and excellent reports of the proceedings of this convention, it hardly seems to me to be worth while for GLEANINGS to go over the same ground again. So many of our bee-keepers have the journals, it seems hardly advisable to have the same matter in all of them, especially while there is such a great amount of good original matter before us. If you do not take either of the above journals you can get, for only a few cents, copies containing these reports. I shall refer to the points considered there as they come up occasionally in our discussions, perhaps for a year to come. The report will occupy 62 columns of the *American Bee Journal*.

## KIND WORDS FROM OUR CUSTOMERS.

The imported queen and bees came all right. I introduced her to a frame of brood last evening. They are all right this morning. I am well pleased with her. J. E. WINDLE.

Lafayette, Ind., Sept. 23.

BECOMING A CHRISTIAN CHANGES ONE'S VIEWS.

Having had some deal with you, I take the privilege to write you. I want to say a word in regard to mixing up subjects in GLEANINGS. I will say, I like to have it mixed with different subjects. Before I was a subscriber I would borrow GLEANINGS of a friend of mine, and I was one of those fault finding ones; and when I received your A B C book I found more fault than ever, because there was so much "religion" in it, as I called it. But about one year ago I gave my heart to God. Though it was dark at first, those clouds have all passed away, and GLEANINGS has been a great help to me. Those Home readings are good. I love to have the subject of religion mixed up with all of my doings, and put on the whole armor of God.

I have kept bees for seven years, and have not had very good luck until the last year, when they did well for increase, but not much honey. But I have learned to love God and all his creatures. My home is happier, which accounts for my bees doing better, and I am happier, all because we are trying to follow the path our Savior has laid out for us.

I have 17 swarms of bees. The most of them are in chaff hives, very strong, part Italians and part blacks. IRA D. GRANGER.

Madison, O., Nov. 16, 1885.

## TELEPHONE.

The little telephone does the work. J. B. COOL.  
Red River, Darke Co., O.

Poultry netting arrived on the 8th all O. K.  
Thanks for promptness. J. M. HYNÉ.  
Stewartsville, Ind., Dec. 11, 1885.

## OUR EXTRACTORS.

The honey-extractor I bought of you works to a charm. I am well pleased with it. It is well worth the money. I took 30 lbs. of honey in 6 days from one colony of Italians. C. D. FARNHAM.  
Fleetville, Pa.

I am well pleased with the extractor you sent me last week. It does its work up to the handle, and the knife gives good satisfaction. It came to hand in good trim. W. F. MATZDORFF.  
Goshen, Ind.

## HOW IT PAYS TO ADVERTISE IN GLEANINGS.

By advertising in GLEANINGS my honey is all sold; and as I am still getting orders, please tell the public my honey is all sold. J. B. MURRAY.  
Ada, O., Dec. 5, 1885.

Please find small advertisement inclosed. By advertising last fall you sold for me 329 colonies of bees, and I hope your printer's ink will do as well for me this winter and spring. ANTHONY OPP.  
Helena, Ark., Oct. 29, 1885.

The A B C of Bee Culture came to me yesterday in good shape and condition. Many thanks for your very prompt attention and kindness. You shall hear from me again oftener in the future.  
Dayton, O., Dec. 12, 1885. LEO P. DHEIN.

## NEVER STOP GLEANINGS.

Inclosed find one dollar. Stop GLEANINGS? Never! Too many good things in it for one dollar, so send it along. WM. BATTLES.  
Blairsville, Pa.

## GROWLERY NO MORE.

Goods received in good shape. No wonder the Growlery has died out in GLEANINGS. Many thanks. The order was filled perfectly, though it was so badly mixed. A. L. LIGHT.  
Pastoria, Ark.

The advance in apiculture knows no bounds. The ice chains, wrought by November storms, did not prevent the safe arrival of the tested queen sent by you Nov. 23d. Bees and queen were as lively as though there were no snow. J. F. MICHAEL.  
German, O., Nov. 25, 1885.

The queen was received in good order, and is better marked than one I have seen which was very black. Thanks. I shall cross some of her drones next season on some of my Syrio-albino queens, and see the result. I think she is safely introduced.  
New Philadelphia, O., Oct. 22. G. L. TINKER.

## 20-CENT SHEARS.

I sent to you last fall and got a pair of your 20-cent shears, and I must say that I was surprised, when I untied the package, to find such a nice pair for so small a sum of money. They are as good as we could find at any price, as far as I can see, and they cut nicely. I want 7 more pair just like them, to supply my neighbors. ADELBERT COOK.  
Norwich, N. Y.

The three tested queens I bought of you in May did well; also the other queens—that is, the \$1.25 queens. I bought three of you, but I did not get the queen-cage fastened rightly on the comb of one of them, and she got out too soon; and during the same night some time, the bees killed her; but I have two skeps from the other two queens that are the nicest-marked Italians I ever saw, and fine workers. They are now, I think, my last queens.  
Loudonville, O. J. F. REED.

While I have been away from home nearly all summer, in the discharge of official duties, and have seen but little of GLEANINGS, I have lost none of my love for the business, and hope I may now have time in the coming months to read all you may have to say, for I have become interested in what you say *outside* of the question of bees and honey. Although you are peculiar, I can't help admiring your very frank, honest, and earnest

ways. I intend sending for your book on carp culture. ED. R. ALLEN.  
Kansas City, Mo., Oct. 19, 1885.

## OUR CARLOAD OF CALIFORNIA HONEY; MELTING CLOVER HONEY, ETC.

My order for honey has brought it in good time, and with very reasonable freight charges. It was received in best condition on the 18th, and the California honey is simply magnificent. I wish my order for it had been much larger. The clover is candied, and stays white and slushy, even when put into hot water. Can it be perfectly thawed and cleared? F. M. POTTS.  
Media, Pa., Dec. 24, 1885.

[Friend P., your clover honey has not been warmed enough, or you have not waited long enough. It will surely become perfectly clear and transparent, when melted, as you have probably found out by this time.]

## KIND WORDS FROM THE AUTHOR OF "THE STORY OF THE BIBLE."

[After the very favorable notice I gave "Fables and Allegories" was submitted to the author I received from him the following kind letter, which he doubtless did not intend for publication; but I want to give it to you, as it illustrates so fully the point that there is no great excellence without great labor. Friend Foster tells us of the long, faithful, and earnest work required to get up such a book, and the world is just beginning to appreciate it.]

## My Dear Sir:

Anybody who undertakes to get up a book full of new pictures, 350 of them, to have them drawn first, then engraved, then printed (not to speak of the money laid out), finds he has big job on hand, and it is a long one. Good things can't be done in a day. Your good artist wants time, so does your engraver, and so does your printer. But there is such a thing as fighting through it, and getting it all done, and done handsomely. Well, then to have it appreciated does come good. There is something about that, that pays a man (in a certain sense) better than the money profit. Now, my friend, I want to thank you for the appreciation you have shown of the pictures in the "Fables," by your advertisement. Numbers of pleasant things have been said, but I don't remember that a single customer has seemed to *feel* the beauty of the "get-up" of that book as you have. I am also delighted that you can conscientiously recommend so strongly the fables themselves. They have all come out of my own experience and my own heart, where the best things of all of us come from. My son generally writes the letters; but I told him I would reply to yours received this morning, and we both thought that your handsome notice deserved a gilt-edge copy, which we send by mail, with wishes for a happy Christmas. CHARLES FOSTER.

Philadelphia, Pa., Dec. 21, 1885.

## OUR SUPPLIES "JUST SUPERB."

It is with a troubled conscience I inform you at this late date, of the safe arrival of goods ordered Oct. 27. The fact that I have been pretty busy at the office, left me little or no spare time to write; and when I got home in the evening I was so impatient to go to my work-room, and start nailing those nice hives, frames, etc., that I have entirely neglected to let you know how delighted and highly pleased I am with every thing you sent; and although there are ten two-story hives, and all the frames and accessories in the flat, to make them complete, every part fits so nicely, it is a real pleasure to put them together; and, by the way, those iron frames are just the thing for nailing hives; they keep the four sides together splendidly, and each hive must fit the other. I advise every one who has only a few hives to nail to get them; they will pay for themselves, in having a good fit, and saving time.

The sections are very pretty indeed—beautiful, to say the least. They bend up and are driven together so nicely and easily, while the Gray fdn. fastener caps the climax, by fastening the starters in those snow white sections very quickly, and without soiling them in the least, for you hardly need touch them, and that by one simple motion of the foot on the treadle. I was surprised, how you can sell a machine, so perfect in its working, and so neatly and strongly made, for the remarkably small sum of 75 cents.



The extractor is just superb, and I think it can't be beat. The revolving basket is so nicely balanced that, when it is turned, the outside can is not jarred or moved in the least, although not fastened to the floor; and when I put in a couple of combs of honey previously uncapped with the Quinby honey-knife, it threw the honey out so clean that no one would believe they ever contained honey, and not a cell injured. You can imagine how delighted I was, never having seen, much less run, an extractor before, to have succeeded so well for the first time.

And now allow me to beg pardon for being so selfish, as it were, not to share my pleasures, and thank you ere this, for you were really instrumental in bringing them about, by filling my order so satisfactorily and promptly; for to receive my goods, as I did in 12 days from date of order, and 8 days from time of shipment, considering distance, by freight, is quick time, and you deserve the patronage of all who like fair and honest dealing.

CHAS. M. THEBERATH.

Newark, N. J., Dec. 13, 1885.

### CONVENTION NOTICES.

The Northern Ohio Bee-Keepers' Association will hold a meeting in the Baptist Hall, in Wellington, Ohio, Friday, January 8, 1886. A special effort will be made to secure a full attendance.

East Townsend, O. H. R. BOARDMAN, Sec.

The North-Eastern Ohio and North-Western Pennsylvania Bee-Keepers' Association will hold its seventh annual convention in Meadville, Pa., Wednesday and Thursday, Jan. 20 and 21, 1886.

New Lyme, O. C. H. COON, Sec.

The next meeting of the Maine Bee-keepers' Association will be held at Skowhegan, Maine, Jan. 19, 20, 21, 1886.

Ripley, Me. WM. HOYT, Sec'y.

The Indiana Bee-Keepers' Association will meet in Indianapolis, Jan. 21, at 1 P. M., in the State Board of Agricultural Rooms, opposite the new Statehouse. We should be pleased to have all meet with us, and hereby send an earnest invitation to come.

Lyons Station, Fayette Co., Ind. JONAS SCHOLL, Pres.

The Sixth Annual Meeting of the Cortland Union Bee-Keepers' Association will be held Jan. 12, 1886, at Cortland, N. Y., in Union Hall, at ten o'clock A. M. It is hoped that all interested in apiculture will make an extra effort to be in attendance at this meeting, also to be present promptly at the time appointed, so that there need be no time lost. Those unable to attend the meeting are requested to send a report of their apiary from May 1, 1885, to Dec. 1, 1885, to the Secretary.

M. H. FARBANKS, Pres.

W. H. BEACH, Sec'y, Cortland, N. Y.

## FARM AND APIARY FOR SALE.

160 Acres, 120 in a good state of cultivation, and well fenced; the rest in timber. Good bearing orchard, well watered, and splendid outside range, 4 miles from railroad and County Seat, and a good live town, and plenty of churches, and  $\frac{3}{4}$  mile from school. Will be sold cheap, and on long time. Splendid bee range; lots of basswood and white clover; 24 stands of bees, mostly Italians, in Langstroth hives. For further particulars, address J. D. JAMES HUMPHREYS, BOX 200, MT. Ayr, RINGGOLD CO., IOWA.

## HAVING MOVED TO NEWARK, N. J.,

My friends will please take notice, while reading my advertisement, of the change of address. F. Holtke, 89 Waverly Place, Newark, N. J. In care of Mrs. Kitterer.

## FOR SALE.

One second-hand fdn. mill that will roll sheets 14 inches wide. The mill is at present in New Hamburg, Ont., Can. The original price on it was \$40.00, but we will now sell it at half price, or \$20.00.

A. T. ROOT, Medina, O.

## HONEY AND BEESWAX.

We are now in the market, and will be during the entire season, for all honey offered us, in any quantity, shape, or condition, just so it is pure. We will sell on commission, charging 5 per cent; or if a sample is sent us, we will make the best cash offer the general market will afford. We will handle beeswax the same way, and can furnish bee-men in quantities, crude or refined, at lowest market prices. Our junior member in this department, Mr. Jerome Twichell, has full charge, which insures prompt and careful attention in all its details.

Sample of comb honey must be a full case, representing a fair average of the lot. On such sample we will make prompt returns, whether we buy or not.

CLEMONS, CLOON & CO.,  
15-2db Kansas City, Mo.

## BEE-HIVES, :: SECTIONS,

### HONEY-BOXES, ETC. GREAT REDUCTION.

All Dealers and large consumers will find it to their interest to write us for special stocking-up prices, either for present or future delivery. 16tdb

G. B. LEWIS & CO., WATERTOWN, WIS.

## BLACK JAVA COCKERELS.

A few fine birds for sale at \$3.00 each. Warranted to be as good as the best. 23,24,1,2d.

S. M. DARRAH, Chenoa, Ills.

DADANT'S FOUNDATION FACTORY, WHOLESALE AND RETAIL. See advertisement in another column.

## JOB LOT OF WIRE CLOTH

AT GREATLY REDUCED PRICES.

### SECOND QUALITY WIRE CLOTH AT 1½ CTS. PER SQUARE FT.

SOME OF THE USES TO WHICH THIS WIRE CLOTH CAN BE APPLIED.

This wire cloth is second quality. It will answer nicely for covering doors and windows, to keep out flies; for covering bee-hives and cages for shipping bees; making sieves for sifting seeds, etc.

Number of Square Feet contained in each Roll Respectively.

Inches Wide.	No. of Rolls.	
10	3	rolls of 75, 72 s. f.
12	2	rolls, 100 s. f. each.
20	3	rolls of 166 s. f. each
22	4	rolls of 181, 1 of 169 s. f.
24	6	rolls of 200, and 1 of 180 s. f.
26	7	22 rolls of 217, 38 of 216, 2 of 195, 1 of 156, 2 of 215, 1 of 210 s. f.
28	16	13 rolls of 233, and 2 of 234, s. f.
34	7	5 rolls of 281 s. f.
36		
38	28	rolls of 316, 3 of 285, 2 of 317, 1 each of 190, 632, 126, and 215 s. f.
42	1	roll of 245 s. f.
44	2	roll of 366, 1 of 348 s. f.
46	1	roll of 152 s. f.
48	12	9 rolls of 400, 1 of 100 s. f.

### FIRST QUALITY WIRE CLOTH AT 1¼ CTS. PER SQUARE FT.

The following is first quality, and is worth 1¼ cts. per square foot. It can be used for any purpose for which wire cloth is ordinarily used; and even at 1¼ cts. per sq. ft. it is far below the prices usually charged at hardware and furnishing stores, as you will ascertain by making inquiry. We were able to secure this very low price by buying a quantity of over one thousand dollars' worth.

Inches Wide.	No. of Rolls.	
20	1	roll of 155 s. f.
22	1	roll each of 88, 143, 92 s. f.
24	43	rolls of 200 sq. ft. each; 1 each of 80, 96, 120, 168, 190, 100 150 140 sq. ft.
26	58	rolls of 210 sq. ft. each; 1 each of 195, 195, 201, 200, 201, 227, 204 sq. ft.
28	76	rolls of 233, 6 of 221, 3 of 219, 8 of 222, 7 of 221, 2 of 219, 1 of 117 sq. ft.; 1 each of 70, 210, 245, 257, 240, 215, 110 93, 82 sq. ft.
30	36	rolls of 250 sq. ft.; 1 each of 82, 137, 225, 117, 125, 125, 220, 227, 237, 235, 275, 240, 157 sq. ft.
32	13	of 266, 7 of 256, 2 of 253 square ft.; 1 each of 233, 231, sq. ft.
34	31	rolls of 283 sq. ft. each; 1 each of 50, 113, 198 sq. ft.
36	22	rolls of 300 sq. ft. each; 2 of 72, 1 each of 288, 150, 279, 235 sq. ft.
38	1	roll each of 300 and 316 sq. ft.
40	1	roll of 233 square feet.
42	1	roll of 350 square feet.
46	1	roll of 192 square feet.

A. T. ROOT, Medina, Ohio.

## HEADQUARTERS THE SOUTH FOR THE MANUFACTURE AND SALE OF BEE-KEEPERS' SUPPLIES

*The Only Steam Factory Erected in the South, Exclusively for the Manufacture of Hives, Frames, Sections, Etc.*

The Viallon and Root Simplicity hives, and the 4½x4¼ Sections specialty; Comb fdn., Extractors, Honey-knives, Bee-veils, etc.

### ITALIAN QUEENS.

Untested, in April, \$1.25 each; \$13.00 per doz. From May 5 to June 1, \$1.10 each, \$12.00 per doz. After June 1, \$1.00 each, \$10.00 per doz. Tested, \$2.50 each; select tested, \$3.00 each. After June 1, 50c less. Contracts taken with dealers for the delivery of a certain number of queens per week, at special figures.

### FOUR-FRAME NUCLEUS,

With pure Italian queen, in April, \$4.00. Three-frame nucleus, with pure Italian queen, in April, \$3.50. Two-frame do., do., in April, \$3.00. After May 15, 25 cents less.

### BEES—BY—THE—POUND,

In lots of five or more, at \$1.00 per lb., no queens. If queens are wanted, add price of queens. Safe arrival and satisfaction guaranteed in every instance. For more particulars, send for my descriptive illustrated catalogue for 1886.

**P. L. VIALLOON,**

1-3d Bayou Goula, Iberville Parish, La.

## IMPORTED QUEENS.

In April, . . . . .	11 francs in gold.
May and June, . . . . .	10 " " "
July and August, . . . . .	9 " " "
September and October, . . . . .	7 " " "

No order received for less than 8 queens. Queens which die in transit will be replaced only if sent back in a letter. **CHARLES BIANCONCINI & CO.,**  
1-11d Bologna, Italy.

## FOR SALE.

100 lbs. Beeswax, choice yellow, per lb., 30 cents; 100 lbs. dark, at 25 cts. per lb., warranted pure and good wax.

80 lbs. 1¼-inch Wire Nails (barbed) 13 gauge; in lots of 10 lbs. and over, per lb., 7c.

Stencil and Key Check Die Outfit. Price and full list on application.

Four Horse-Power Engine and Boiler (B. W. Payne & Sons' make), not used over three months. Warranted in good order. Also 18-inch French Burr Corn and Feed Mill.

One Barrel-Steamer for cooking feed. Furnace, 1¼-inch boiler iron, "T" pipe, brass cocks. In good order. Prices, etc., on application.

**H. L. GRAHAM,**

1-2d GRANDVIEW, LOUISA CO., IOWA.

## Bee-Hives, Honey-Boxes, Sections.

LARGEST BEE-HIVE FACTORY IN THE WORLD.

CAPACITY, 1 CARLOAD OF GOODS PER DAY.

Best of goods at lowest prices. Write for Price List. 1tfdb. **G. B. LEWIS & CO.,**  
Watertown, Wis.

## NOTICE!

The partnership heretofore existing between F. A. & H. O. Salisbury has been dissolved by mutual consent. The business will be carried on by F. A. Salisbury at 318 W. Genesee St., Geddes, N. Y.  
1d **F. A. SALISBURY.**

**SUMNER & PRIME,**  
**BRISTOL, \* VERMONT.**  
—MANUFACTURERS OF—

## Bee - Keepers' Supplies.

White Poplar Dovetailed Sections and Shipping Crates a Specialty. Price List and samples free. 1-2d

**75 COLONIES OF BEES FOR SALE.**  
1tfdb Address **J. S. Baxter,**  
Corinth, Alcorn Co., Miss.

**WANTED.—6000 ONE-PIECE SECTIONS.**  
1d Send lowest cash price. **L. D. WORTH,**  
Reading Center, N. Y.

## EXCHANGE DEPARTMENT.

Notices will be inserted under this head at one-half our usual rates. All ads intended for this department must not exceed 5 lines, and you must SAY you want your ad. in this department, or we will not be responsible for any error.

**WANTED.—To exchange circular-saw machine** for hive-making, machine for making dovetailed sections, light saw-mandrels, or bee-supplies, for extracted honey. Clover and basswood preferred. 1d **D. S. HALL,** South Cabot, Vt.

**WANTED.—To exchange one-half bushel of extra fine white-clover seed for alsike-clover seed.** 19tfdb **M. A. GILL,** Viola, Rich'd Co., Wis.

**WANTED.—To exchange or sell.** Friends, I have 15 pairs of the celebrated Bonney's stock of Brown Leghorns that I will sell at \$3.00 per pair, or will exchange for good beeswax at 25 cts. per pound. Circulars free. Ref., A. I. Root. 24tfdb **A. H. DUFF,** Creighton, Guern. Co., O.

**WANTED.—To exchange, Scott's Commentary** on the Holy Bible, 6 vols., quarto, bound in sheep, in good order, weight 19 pounds. As I have other commentaries, I will exchange this for something else useful. Address **A. H. VAN DOREN,** 24tfdb Liberty, Bedford Co., Virginia.

**WANTED.—To exchange golden-willow cuttings** for Italian queens. I will book orders now, and send the willows as early as will do next spring: queens wanted in May and June, 1886. 2 dozen cuttings for a warranted, and 4 dozen for a tested; also one weeping-willow cut with each dozen. Will send by mail. **S. C. FREDERICK,** 24, 5db Coal Vale, Craw. Co., Kan.

**WANTED.—To exchange pure-bred German Canary birds; also Brown and White Leghorn eggs in season, for beeswax, sections, or Italian bees.** **F. H. CHAPIN,** Hinsdale, Catt. Co., N. Y.  
1-2d Dealer in all kinds of country produce.

If you wish to exchange strawberry, blackberry, or raspberry plants for Italian bees, send list of varieties and prices to **E. A. GASTMAN,** 1tfdb Decatur, Macon Co., Ill.

**WANTED.—To exchange, a Barnes foot-power circular saw, with three saws and two mandrels; also one circular-saw mandrel, for either honey or poultry. Make offers.** 1dftb **OTTO LESTINA,** Derby, New Haven Co., Ct.

## Untested Queens from the South.

I have several young queens, which I will send by return mail to any one wishing them, for one dollar.  
**MRS. A. A. NEEDHAM,**  
Sorrento, Orange Co., Florida.